Fall 2016

Decentral Park

Garrett Wineinger

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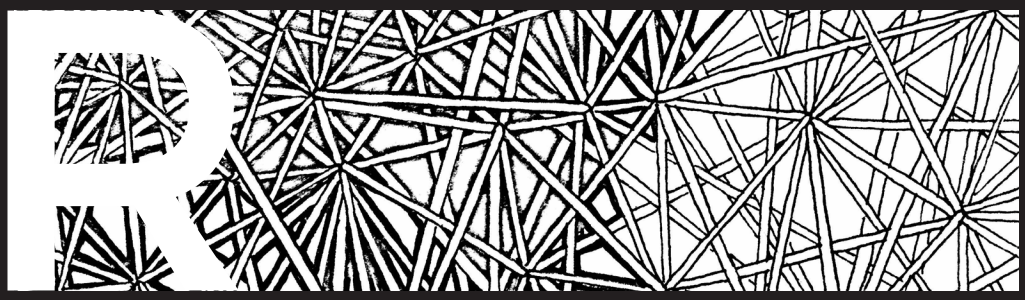
Garrett Wineinger

AFTER THE GRID



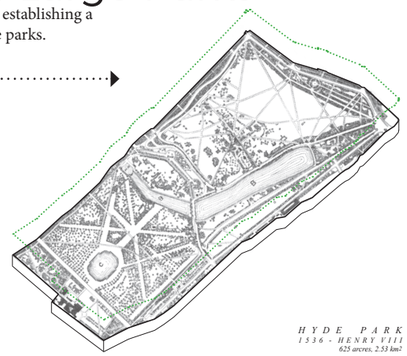
VERTICALIZING URBAN LANDSCAPE WITHIN MANHATTAN

TABLE OF CONTENTS

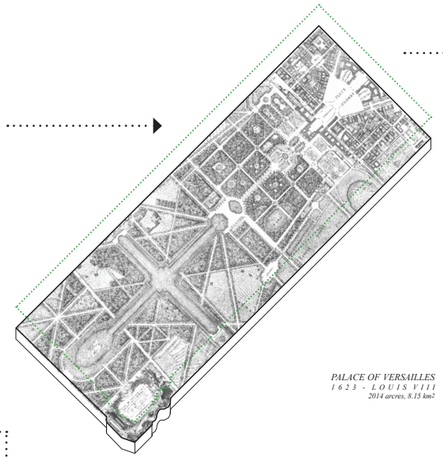
General “Development” of Large Parks*

*Not an exclusive history. There are many other factors that play into the history and development of large parks. This is establishing a compicaltion of logics surrounding the characterists and development of large parks.

SIXTENTH CENTURY
ROYAL PARKS



HYDE PARK
1536 - HENRY VIII
625 acres, 2.53 km2



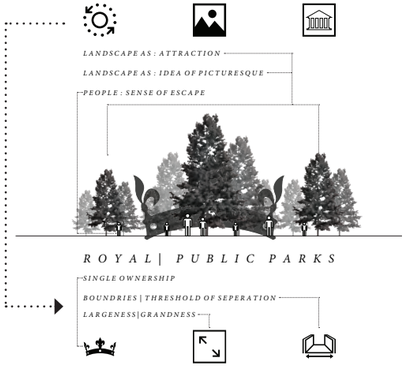
PALACE OF VERSAILLES
1623 - LOUIS VIII
2014 acres, 8.13 km2

ROYAL PARKS

- SINGLE OWNERSHIP
- BOUNDRIES | THRESHOLD OF SEPERATION
- LARGENESS|GRANDNESS

ROYAL PARKS

ROYAL| PUBLIC PARKS

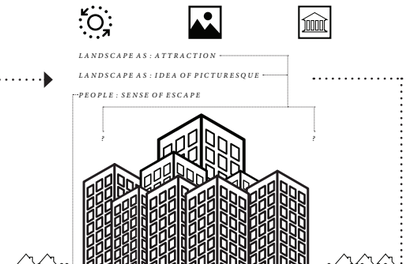


ROYAL| PUBLIC PARKS

- LANDSCAPE AS : ATTRACTION
- LANDSCAPE AS : IDEA OF PICTURESQUE
- PEOPLE : SENSE OF ESCAPE
- SINGLE OWNERSHIP
- BOUNDRIES | THRESHOLD OF SEPERATION
- LARGENESS|GRANDNESS

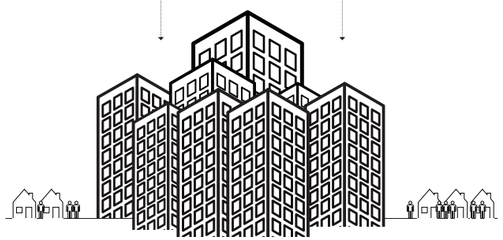
INDUSTRY

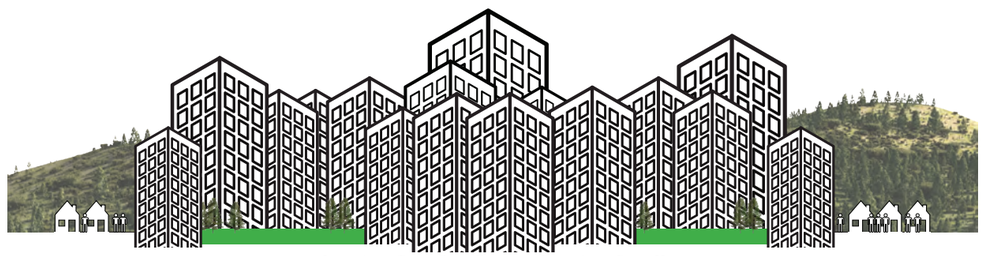
URBAN AND SUBURBAN-ISM



URBAN AND SUBURBAN-ISM
WORKING CLASS

- LANDSCAPE AS : ATTRACTION
- LANDSCAPE AS : IDEA OF PICTURESQUE
- PEOPLE : SENSE OF ESCAPE





LARGE PARK

ROYAL| PUBLIC PARKS

NATIONAL PARK

NATIONAL PARK

- NOT LANDSCAPED, CURATED
- LANDSCAPE AS : CHARISMA
- RENDERED | ANESTHETIZED VIEW AND SPECIES
- SINGLE OWNERSHIP
- BOUNDRIES | THRESHOLD OF SEPERATION
- LANDSCAPE AS : ATTRACTION
- LARGENESS|GRANDNESS

"Large Park remain fundamental to cities, not only... functions displaced from densely built centers but... absorb the identity of the city as much as they project... places that are unique and irreproducible. Those... designers, ones that have captured the imagination of... and that continue to be used intensely centuries after... characteristics: they are flexible, adaptive, socially... powerful, unforgettable places. They are the product... in terms of management, program, and use, and they... distill, and capture for the long term that which make... ...because they take on infrastructural and ecological ...because they are distinct, memorable places. They ...one, becoming socially and culturally recognizable ...large public parks that we are continually drawn to as ...writers, artists, social historians, and philosophers, ...their making, have in common seemingly contradictory ...dynamic, emerging sites, and they are also visually ...of deliberate decisions that leave them open-ended ...result from equally conscious decisions that isolate, ...them unique." [1]

PRE - Introduction

From the dawn of industrialism, our world has begun evolving and expanding into a man-made ecology of urbanism. Aided by technological advancement, we are urbanizing at an ever increasing rate. Our natural geography is transforming into an unnatural typology. Infrastructure is consuming the landscape, which we have predicted and understood from its very start. Alongside industrialism and mass urbanization, a strive to preserve and maintain our planets natural environment has developed simultaneously. However, recently this strive has become increasingly difficult. Government and institutionalized policy, along with deprived regulatory budgets and the high costs of implementation, has cause for the shortness of breath within the growth and maintenance of preserving existing and newly constructed landscapes.

Human beings are intrinsically connected to the landscape. Its provides us essential substance to survive, its logics helps regulate the environments we surround ourselves in. The loss of landscape would create a world without the possibility of life.

Now, with all drama aside, as a civilization we have understood this importance. Government and private organizations all over the world are devoted to preserving our landscape. However, what begins to disturb me is that fact that we are confining thesis landscapes to hard boundaries and edges. Even in the largest of landscapes, both rural and urban, we can see hard definitive boundaries and edges limiting the extents of landscape possibilities. This is visually present in almost every city today. Lots, large and small, are allotted for landscape in the metropolis. We are dictating the limits of our natural world.

In our development of urban environments, can we not begin to allow the natural world to take part in this expansion of urbanism? In this thesis, I am contending that landscape now can be redefined by overlapping boundaries of the artificial and man-made. And within this overlap of environments, I believe a new typology will arise: the organic urban landscape. One, that is not limited to boundaries, but integrates seamlessly with our bustling metropolis.

Research into this development is needed now more then ever. With the increasing population, and the constant and steady migration back into cities, we cannot allow ourselves to replace our bond to the natural world, with a connection to the artificial.

In this thesis, I will contemplate the necessary process of weaving the large landscape into the urban fabric. As stated within Anita Berrizbeitia's essay, Re-placing Process, in the book Large Parks, "Yet for all their susceptibility to the ebb and flow of urban circumstances, large parks remain fundamental to cities, not only because they take on infrastructural and ecological functions displaced from densely built centers but because they are distinct, memorable places. They absorb the identity of the city as much as they project one, becoming socially and culturally recognizable places that are unique and irreproducible. Those large public parks that we are continually drawn to as designers, ones that have captured the imagination of writers, artists, social historians, and philosophers, and that continue to be used intensely centuries after their making, have in common seemingly contradictory characteristics: they are flexible, adaptive, socially dynamic, emerging sites, and they are also visually powerful, unforgettable places. They are the product of deliberate decisions that leave them open-ended in terms of management, program, and use, and they result from equally conscious decisions that isolate, distill, and capture for the long term that which make them unique." Landscape is essential in the urban environment. Without it, we will loss ourselves in the expansion of urbanism, and risk the permeant separation of the natural and man-made.

Chapter 01

TODAY'S TENDENCIES

Standing with all established logics of Park and City, in addition to our adaptation to our current infrastructural situation, different trends in contemporary landscape are proliferating.

Adaptive Reuse

Nature Reserve as Quasi Park

Landscape as Remediation

Pocket Parks

Ecosystem as Park

All of which follow three overarching logics.

CORPORATE CAPITALISM

The capitalistic use of land and space within a city, denies a species the opportunity to take hold. We have this view that the city should be put to use in some sort of notion of productivity, which has nothing to do with the productivity of ecology, and everything to do with capitalizing on value of real estate.

CENTRAL PARK SYNDROME

The logic of the Manhattan grid. The one true order of a city. No need nor possiblility to overlap systems.

THE ROMANTIC WILDERNESS

The picturesque, perfect vision of landscape that captures all the necessary qualities that a landscape should hold.

Chapter 02

INTERWOVEN, LARGE, URBAN PARK

What does a large, interwoven, urban park suggest? Is it buildings integrated with green technology? Or landscapes existing next to infrastructure? Or simply a park existing on its own lot in the city? Believing that all of these notions can be correct, I believe this understanding is only skin-deep. In order to fully grasp the possibilities of this unknown typology, a greater importance in understanding each classification individually [Large | Interwoven | Urban Park] all in a larger correlation to park typology, will allow us to peer beneath the skin to understand the mechanics of this greater organism. “First, initiating a study of parks selected by size cuts across conventional binary categories of classification — historic or contemporary, built or unbuilt, urban or peripheral, competition sponsored or commissioned — and enables review of landscapes not usually considered collectively.” [1]

In this section I will examine what park means today along with the adjectives, large and interwoven. All individually studied with a correlation to the greater context of park.

park /pärk/

1. a large public green area in a town, used for recreation.
    - 1.1 A large area of land kept in its natural state for public recreational use
    - 1.2 A large enclosed area of land used to accommodate wild animals in captivity.
    - 1.3 North American A stadium or enclosed area used for sports.
    - 1.4 A large enclosed piece of ground, typically with woodland and pasture, attached to a large country house: ‘the house is set in its own park’
    - 1.5 a broad, flat, mostly open area in a mountainous region.
2. An area devoted to a specified purpose

> “Whatever the various meaning of the word park, — to cottager of Chaucer’s time watching the deer over the paling of the manor woods, to the courtier of Louis XIV philandering through the broad allées at Versailles…to the East side urchin of toady grasping at this chance for plan in Seward Park — it always suggests to us some kind of a green open space with turf and trees.” [1]
>
> - Fredrick Law Olmsted

The municipal park typology movement started in Europe in the early 19th century. Today the idea of park has changed bringing along with it arguments for great potential and grave conflict. Within the book Large Parks, two opposing ideological differences are laid out: parks vs. no parks. Julia Czerniack’s essay, Speculation on Size, first quotes Galen Cranz stating: “those with an interest in the character of urban life should siege on parks as one of the vehicles for the realization of their particular visions, and debate around parks should revolve around those visions,” and, more specifically, that parks can be “a perfect world in miniature, one that provides norms for the larger world to live up to.” [2] However, Czerniak also addresses the other side of the argument, quoting Adriaan Geuze, a landscape architect addressing the Dutch landscape: “there is absolutely no need for parks anymore, because all the nineteenth-century problems have been solved and a new type of city has been created. The park and greenery have become worn-out clichés.” [3] Understanding the perspective on both these statements, I believe both are suggesting and aiming for a new innovative concept for park. As Adriaan Geuze states, “…a new type of city has been created.” In response, shouldn’t a new type of park also be created to match the new type of city? Furthermore within todays constant urban expansion, shouldn’t a greater focus and understanding be placed in the potential weaving of these two typologies?

The economic, social, and cultural benefits of urban parks are apparent. Galen Cranz’s statement, that from a positive len, suggests many possible outcomes and insights produced by urban parks. These positivities can be seen in National Park Services 2016 Urban Agenda which aims to bring more parks/national parks into urban environments. Their mission begins by quoting Fredrick Olmsted: “It is one great purpose of the Park to supply to the hundreds of thousands of tired workers, who have no opportunity to spend their summers in the country, a specimen of God’s handiwork that shall be to them, inexpensively, what a month or two in the White Mountains or the Adirondacks is, at great cost, to those in easier circumstances.” Olmsted believed in the effects that urban parks can provide to an urban context. The NPS goes on to state more specifically the seen benefits to urban parks in today’s cities. It provides a “sense of place, an escape from cubicle confines, recognition that everyone’s history is important,” “a threshold experience to the great outdoors,” “connection of lives to where they live,” and “new opportunities to help build communities across the urban landscape.” It even goes on to state that “in many ways, the environmental, economic, and social well-being of the nation hinges on the vitality and prosperity of its cities.” This further implies the importance that urban parks have on the well-being of urban environments, especially that of todays younger generations. “Urban national parks are particularly well positioned as places where young people, many from diverse and often underserved communities, can experience close-to-home outdoor recreation and nature; arts, culture and history; and perhaps most importantly, gain some sense of confidence and encouragement about their own future.” The agenda perfectly exemplifies the need for a new mode of park. One that bridges the gap between the 80 percent of americans living and working in cities, to the natural landscape that surrounds them. [4]

However even with all these positive outcomes, urban parks still face many challenges. James Corner states in the forward to Large Parks, “while expensive to design and build, they are even more expensive overtime to operate and manage. In times of fiscal cutbacks, parks maintenance is the first to be cut, and parks can quickly fall into states of disrepair and dereliction. When this happens, parks become the city’s backyard, the venue of illicit use, violence, and dumping — the urban wilderness.” With violence and crime being of main concern, policies have recently been established to take action. In 2005 in New York City, Mayor Bloomberg sign Local Law 114 which mandates the tracking of crime that happen within 20 selected pilot sites. The data collected began to track the specific crime tendencies of each site, and later allow new prevention efforts to combat the crime. This is just one example of efforts that have been implanted to address the crime in urban parks. However the data collected within this study, as in all studies of this nature, are all completely site specific which does not allow for generalizations that would be successful in another urban context. [6]

large /lärj/

1. of considerable or relatively great size, extent, or capacity.
2. of wide range or scope.

The word large has many implications in our current architectural discourse, encompassing many connotation, and contradictions. Julia Czerniack states:

"the adjective 'large' foregrounds a set of preoccupations in landscape discourse that relate in complex ways, such as ecology, public space, processes, place, site and the city. Although these aspects of our environment are present in smaller parks, a large park both contains the space that promotes their full interaction and it tangent to a great diversity of urban influences. Given the number of large parks now being speculated about, designed, and planned…a study of large park design, management, and use is timely and necessary." [1]
- Julia Czerniak

And furthermore, today in our current urbanist intensions, the study of large urban parks specifically is needed.

One of the biggest qualities a park can emulate is size. "As a qualifier for parks, size has practical and disciplinary consequences, and as sole criterion, the term becomes critical." [2] This idea of "large" was first used to define "park" by Fredrick Olmsted in his 1870 address, "The Justifying Value of a Public Park." He states "[a park is] a large tract of land set apart by the public for the enjoyment of rural landscape, as distinguished from a public square, a public garden, or a promenade, fit only for more urbanized pleasure." [3] In this statement, large begins to suggest larger qualities and quantities of space that can metaphorically remove oneself from an urban context. The values of large, encompasses ornate affective qualities to the user.

Physically, the notion of large branches off and becomes implemented in the creation of Central Park. Andrew Jackson Downing believed "five-hundred acres is the smallest area that should be reserved for the future wants of such a city… in that area would be space enough for to have broad reaches of park and pleasure-grounds, with a real feeling of the breadth and beauty of green fields, the perfume and freshness of nature." [4] Czerniack goes on to further state that within the early stages of urbanism "it was easy and relatively inexpensive to acquire the generous spaces of which Downing spoke." [5] From this point onward, large urban parks developed with generous sizes. Franklin Park, Boston, 527 acres; Buffalo Park System, linking over 700 acres; Central Park, New York City, 843 acres; Fairmont Park, Philadelphia, 1061 acres; Golden Gate Park, San Francisco, 1017 acres. This large park initiative generated a large urban park typology in almost every developing urban center.

When urban development was in its beginning stages, land distribution was able to be generous and was able to take on many forms. In this time, large urban parks were able to organized and shaped in ways that were integral to the developing urban environment. However today, Czerniack explains "designers find themselves making large parks on reclaimed industrial wastelands, brownfields, decommissioned military bases, or landfills whose limits — often political and economic as much as geographic—are imposed, not chosen." [6] This begins to offer solutions and ample opportunities for not only 'large parks' but for also todays growling glamorousless locations of our nations past.

Largeness, can furthermore be perceived as discomfort, or potentially dangerous. In "The Death and Life if the Great American City", Jane Jacobs contends that large parks are vulnerable in becoming "dispirited board vacuums." A term she defines as a single massive use of territory that produces danger and possible stagnation in the surrounding urban neighborhoods. She insists that large urban parks need to house "metropolitan attractions" and use the parks edges or boundaries to their fullest potential. There, she states, could produce "spots of intense and magnetic board activity," creating an interwoven connection between park and city. Rem Koolhaas, in his manifesto "Bigness… the problem with Large" as well address the complexities surrounding large.
-It seems incredible that the size of a building alone embodies an ideological program, independent of the will of the architect.
-only Bigness instigates the regime of complexity that mobilizes the full intelligence of architecture and its related fields. [8]

Czerniack takes these ideas one step further suggesting even though these questions are pertaining to architecture, not landscape architecture, if we "reappropriate or re-phrase his theorems generates a provocative set of questions to consider when studying, designing, and building this ever adapting large urban park typology."

in·ter·weave /ˌin(t)ərˌwēv/

1. weave or become woven together.
2. blend closely.

Interweaving, normal associated with textiles, is a common term within todays architectural discourse to describe the connecting of two or more conditions, programs, structures, etc. (or any combination of the sort). This common trans-disciplinary perspective has become immensely vital in the advancement in todays architectural development. However this concept cannot be perceived as only pertaining to material goods and infrastructure. Ourselves, as individual users and as a collective society, are all widely interwoven into many fabrics. we exist in and on an infinite array of spectrums. To understand something as a singular object, with any relation to where that object exists, only provides you with a surface level understanding.

The architectural field has been utilizing this concept on a range of conditions such as structure, program, circulation, mechanical and electrical systems, facades technological and sustainable systems, and so on. The interweaving of these systems has catalyzed the growth of our architectural achievements.

Architecture and landscape architecture are yes, two separate fields, however, the greater interweaving of the two can begin to provoke a set of compelling possibilities. Steven Holl has speculated on this concept of interweaving regarding architecture. He states, “The meshing of object and field yields an enmeshing experience, an interaction that is particular to architecture. Unlike painting or sculpture from which one can turn away from, unlike music of film that one can turn off, architecture surrounds us. It promises intimate contact with shifting, changing, merging materials, textures, colors, and light in an intertwining of flat and deep three-dimensional paratactical space and time.” [1] The affect of an architectural experience is intangible. It is subconscious. It is intrinsic in the way we use and perceive space. And colliding architectural experiences, such that of architectural and landscape, can we woven deeper into each other, to ignite a deeper experience.

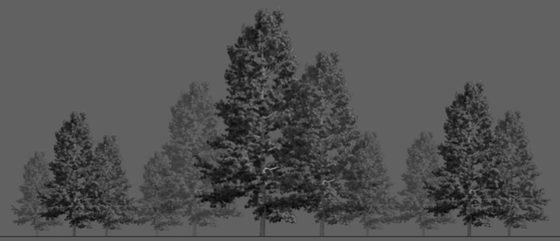
“Order does not imply beauty” - Louis Kahn. “City-order and nature-order exist in harmony and cacophony. As a stone spinning on a string exerts centrifugal force and the petals of a flower grow centrifugally, the geometry of the city and nature collide to form a tornado of centrifugal and/ or centripetal forces. Such vortexes of city and nature signal other vortexes and geometries for intertwining with phenomena. On a molecular level the double helix structure of complementary (or homologous) chromosomes carries the genetic codes of heredity and reproduction. The work on intertwining considers new geometries and other orders, merging space and time in new ways.”

So what does interwoven, large, urban parks suggest? As Vishaan Chakrabarti states in “A Country of Cities”, “While it is conventional to point out that the worlds population if urbanizing, the world is primarily suburbanizing.” Meaning that collectively the world is becoming one single urban environment, composed of little sub-urban communities (or countries).

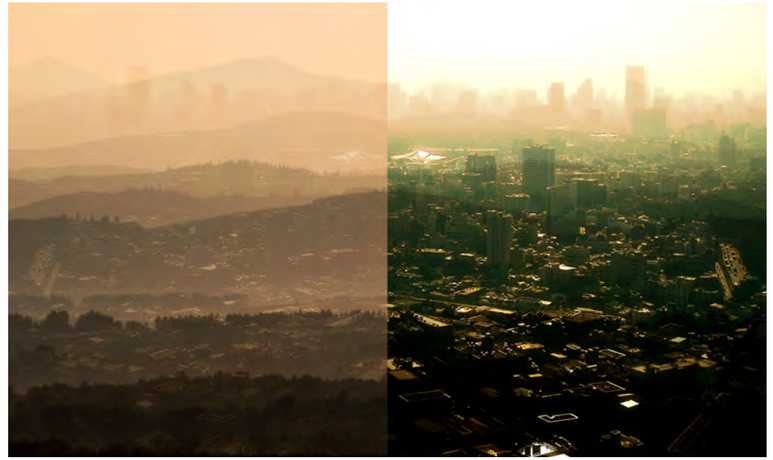
Within this though, I believe there is an apparent void. With the redevelopment of our world into that of an infrastructural urban typology, should we not begin to also rethink and a redevelop our landscapes so that they are interwoven into this new typology? However this time, without the confines of hard edges, and boundaries. No longer a city composed of endless horizons of sprawling infrastructure. But, this time, sprawling cities with landscapes that weave through them like roots. One that allows city dwellers the ability to exist on this new threshold of the urban landscape.

Chapter 03

THE FORSEEN FUTURE



What does threshold to park mean? What does city mean?



How do we know when we are in a park? Does it matter? Do parks matter? Appears to be an issue of imaginability in parks, verses, the problem of threshold.

The tendency of viewing urbanization as profit which inherintly values the efficient and intense use of land.

Chapter 04

.....wait

what are the root issues to all these questions?
what am I circling around?

VERTICALITY

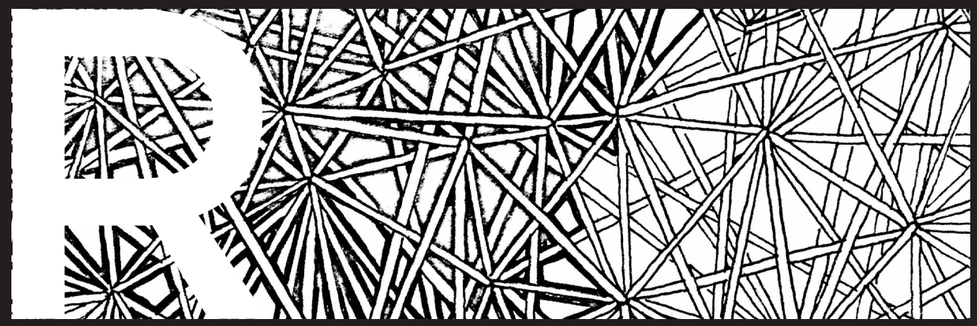
AND

HORIZONTALITY

THE GRID.

Chapter 05

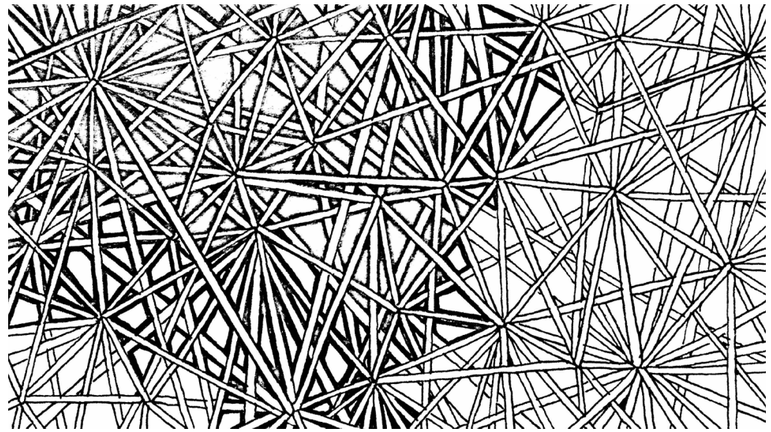
AFTER



THE GRID

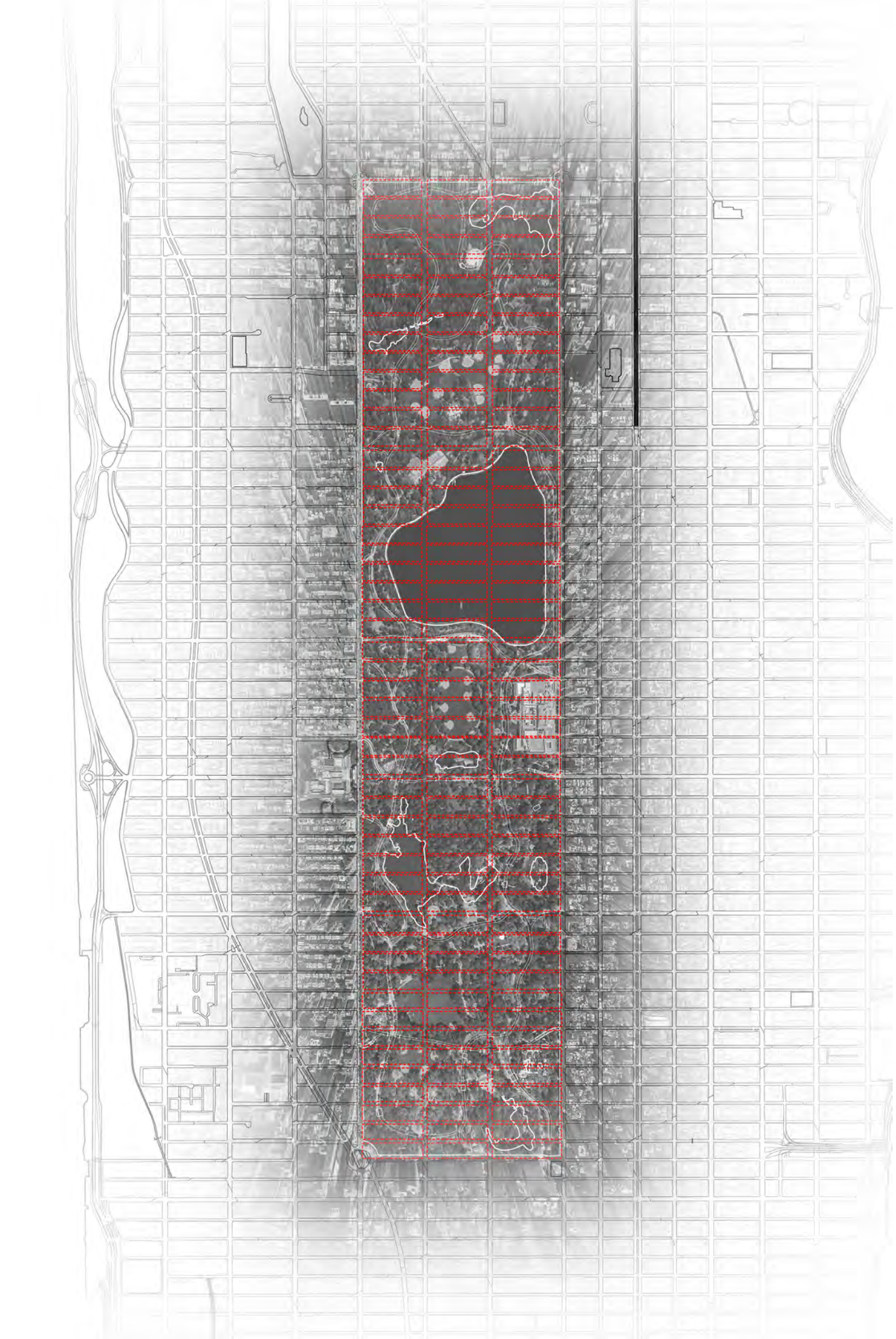
After The Grid investigates the relationship between large parks logic of horizontality and the surrounding urban contexts logic of verticality, with a view to producing a thesis that challenges the density and direction of developing for landscape within growing urban environments.

The dynamic relationship of Manhattan and Central Park, presents an ideal dialectical condition to further explore. This relationship is currently clashing between the legacy of the Manhattans vertical infrastructure, and Olmsted's romantic ideology of the sprawling, picturesque, and horizontal landscape. Today, with the growing number of city dwellers, and the increasing verticality of urban infrastructure, urban landscape is beginning to be overshadowed and stuck to a ground level condition.

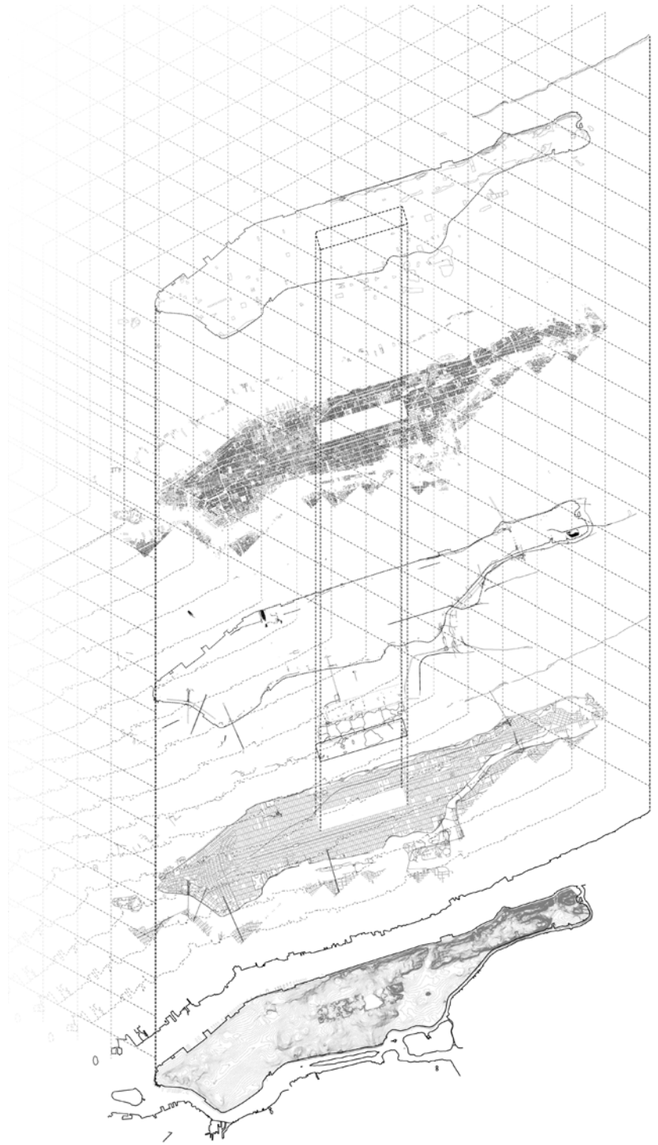


Manhattan was originally superimposed with the grid in 1811. The grid is said to "neither [account] for irregular edges of its shape nor the topography of the island. It rendered the lines of former streets, houses, and fields as dashed. Ordering the orthogonal grid of blocks independently of geography, history, and memory." [1] The superimposition of the grid upon the original landscape of Manhattan, became the new organizational framework which catalyzed infrastructure to grow. This framework which prided itself on the productive and efficient use of land, provoked new urban infrastructure to grow vertically.

Orginal topography of the island of Manhattan, with the 1811 grid superimposed on top.



The Large Park was introduced to the Manhattan grid in 1853. With the inherit horizontal logic of landscape, the City of New York acquired more than 700 acres of land in the center of Manhattan.[8] The hope was to provide an "area [that] would be space enough to have broad reaches of park and pleasure-grounds, with a real feeling of the breadth and beauty of green fields, the perfume and freshness of nature." [9] The development of Central Park created a thriving relationship of Park and City. However, Olmsted had one condition: "In the park, the city is not supposed to exist." [10] The vertical logic of infrastructure, and the horizontal logic of landscape, became a strong dialectical condition in urban environments.



open space

architecture

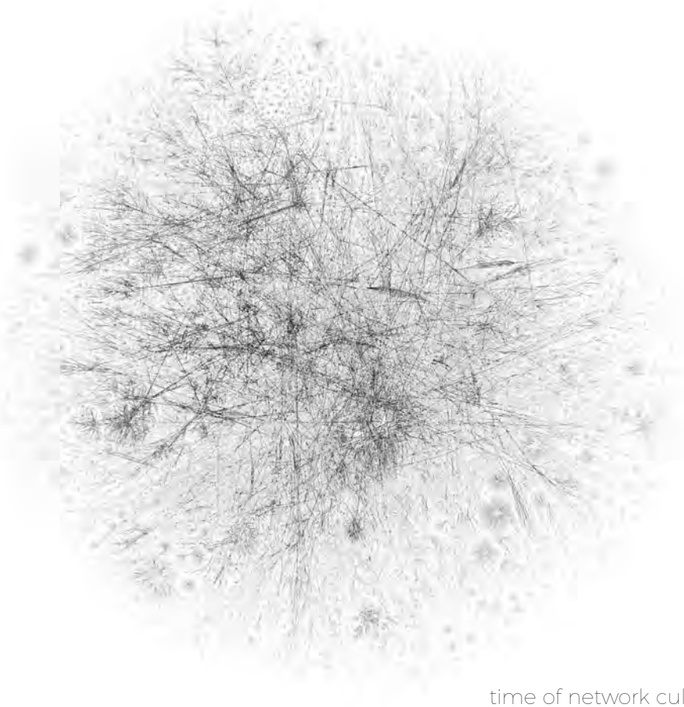
infrastructure

manhattan grid

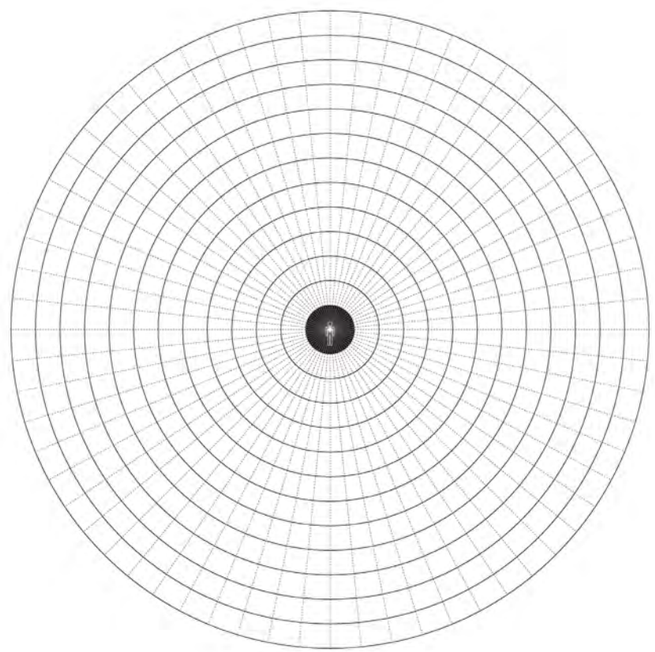
original topography

The contemporary conditions of Central Park (and other urban landscape), is striving to break through these separate organizational logics. The dominating vertical logic of Manhattan, is provoking a reconceptualization of the horizontal logic of Central Park.

Idealistically, landscape in cities is beyond luxury, it is a necessity. Current city dwellers are craving for new spaces of 'escape' within Manhattans increasing infrastructural, and societal density.



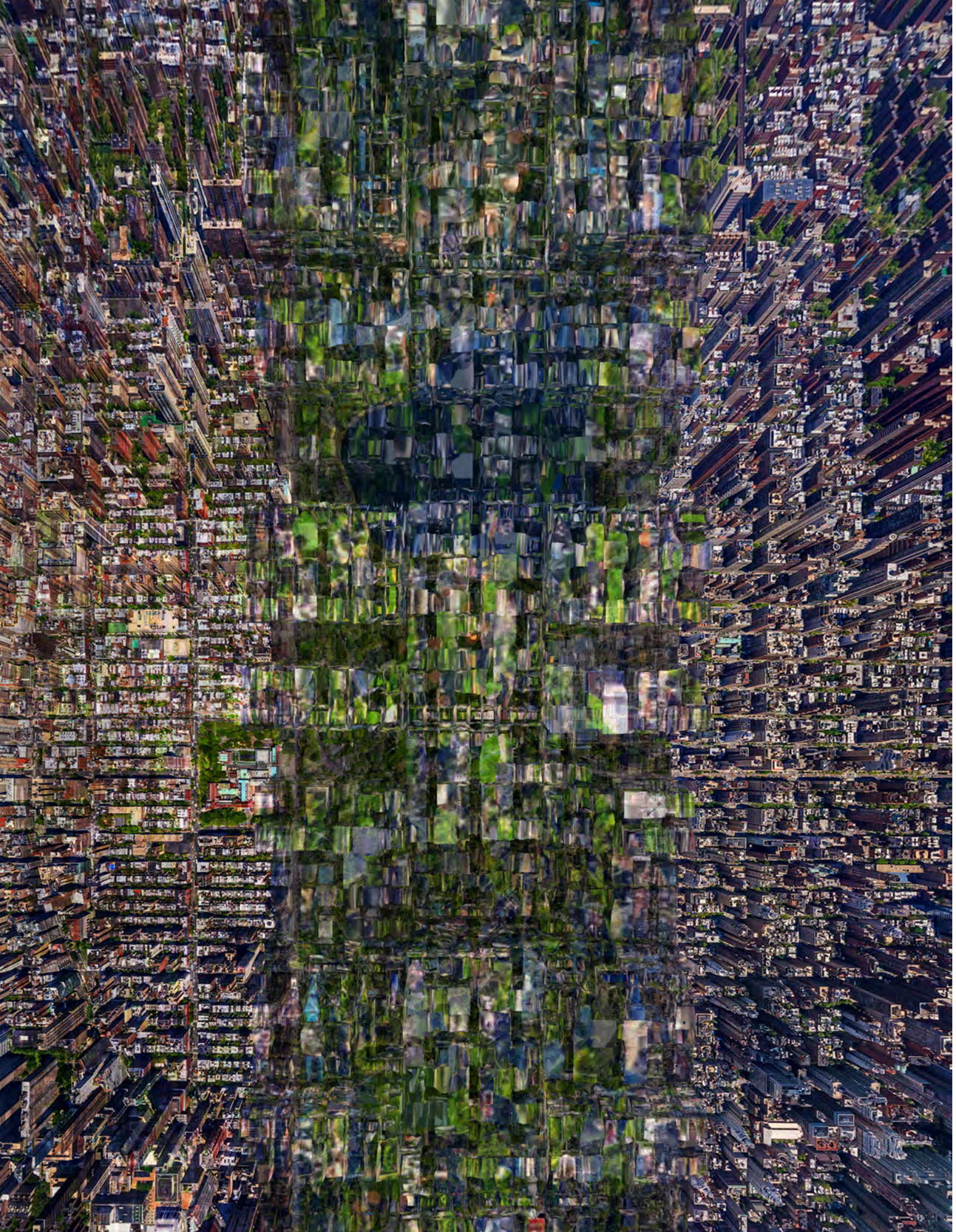
time of network culture | interconnectivity



time of anthropocentrism

The need for landscape is in high demand. A New York Times article titled "Want to Relax in a New York City Park? Join the Crowd, states "More people than ever are jamming into the city's public parks, pools and beaches, filling the most popular ones to burst, creating noise and trash problems and making the experience altogether less enjoyable for those looking for a bit of serenity." [10] The 1811 plan of Manhattan, or the 1853 plan of Central Park could not imagine, nor prepare for this increase in density. Urban landscape is striving to be re-rendered and re-conceptualized to accommodate urbanism increasing vertical development .

[1] Data collected by Eric Fischer. Showing activity of residents (blue), tourists (red), and a combination (yellow), in and around Manhattan.



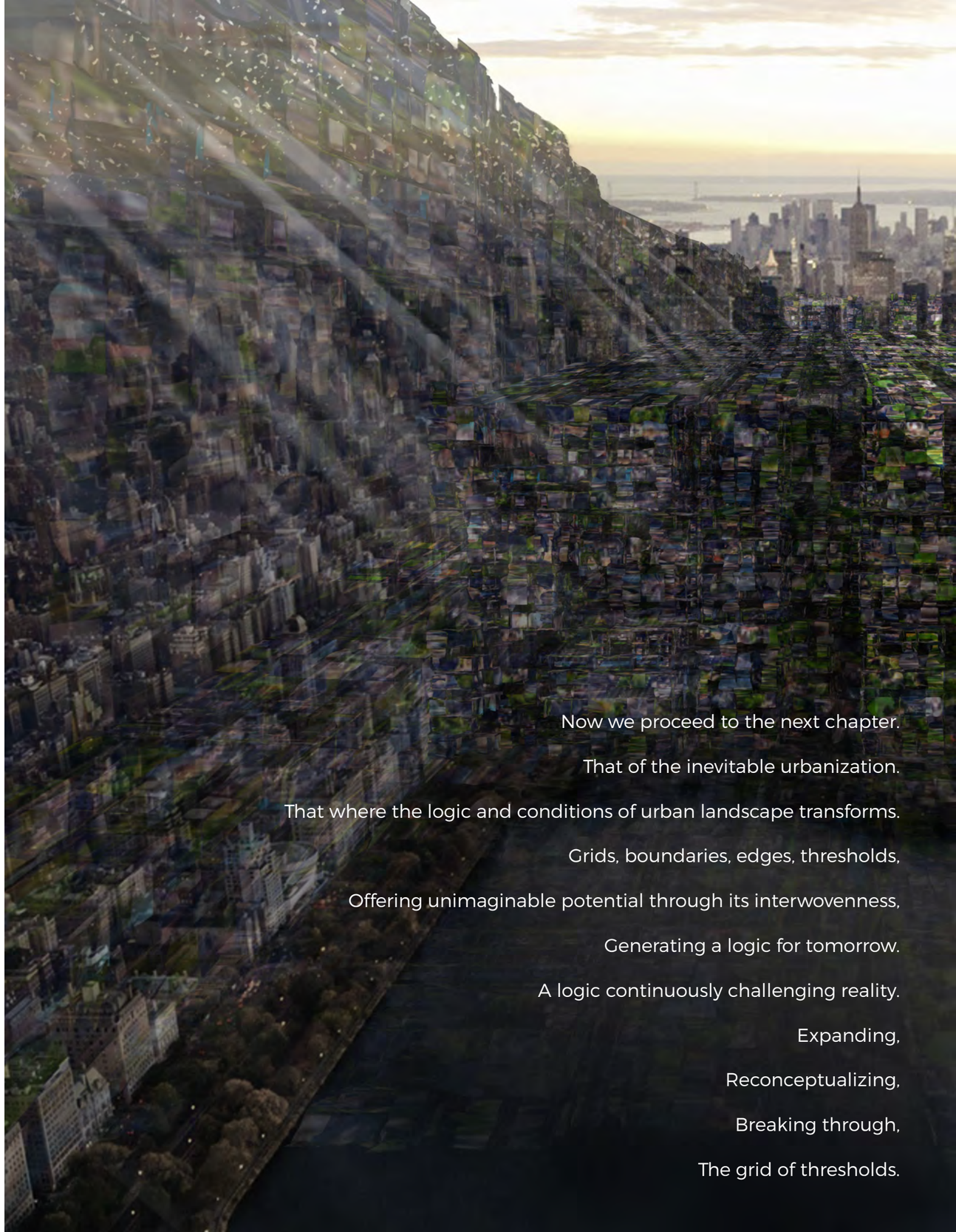
The horizontal relationship of Central Park to the surrounding vertical logic of Manhattan, are incredibly unbalanced. Each typology, urban infrastructure, and urban landscape are competing in utopian ideals: the utopian city of tall-buildings, versus, sprawling utopian landscapes.

This thesis contends to interweave the conditional logics of the vertical urban city and the horizontal urban landscape, to develop a contemporary vertical urban landscape that no longer overshadowed by urbanity.
An interweaving of Manhattan's vertical legacy, with Central Parks picturesque, romanticized, sprawling horizontal landscape not only explores new urban landscapes for the current dwellers, but also experiments with new urban landscape models for cities in the coming future.

In order to achieve this, I believe a change in urban landscape's organizational and representational imagery needs to be challenged, or provoked. The vertical logic of urbanism and the horizontal logic for landscape, are being perpetuated through its representation. By thinking of urban landscape, not strictly in plan, but rather in section and elevation, begins to explore new models and possibilities of contemporary and future urban landscape.

As stated within "Abstraction Returns: A grid Proposal for the Island of Manhattan," "In the spatial sense, the grid states the autonomy of the realm of art. Flattened, geometricized, ordered, it is antinatural, antimimetic, antireal. It is what art looks like when it turns its back to nature. In the flatness that results from its coordinates, the grid is the means of crowding our the dimensions of the real and replacing them with the lateral result not of imitation, but of aesthetic decree..." [1]

Another strategy to escape the instrumentalizing forces that drive contemporary urban and landscape design, is to conceptualize beyond reality itself. By working in the realm of complete speculation, one can begin to explores ways of breaking through the organizational and representational grids to reinterpret the idea of vertical urban landscape. An area of potential study is that of concept art. Its speculative potency imagines, the impossible. It is time for the current segregated existence of 'urban' and 'landscape' to transition to that of interconnectivity and unity to develop simultaneously without overshadowing one or the other.



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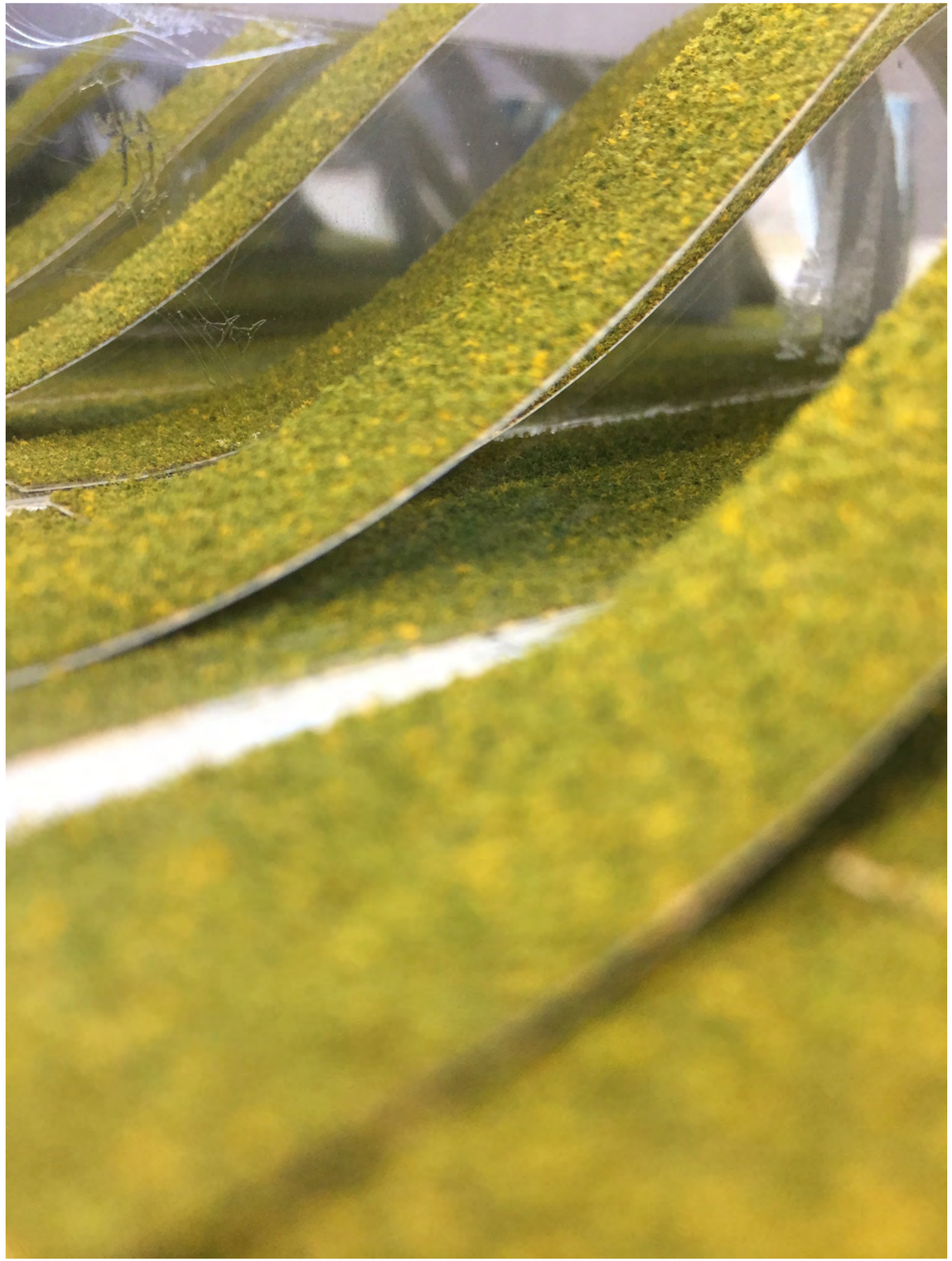
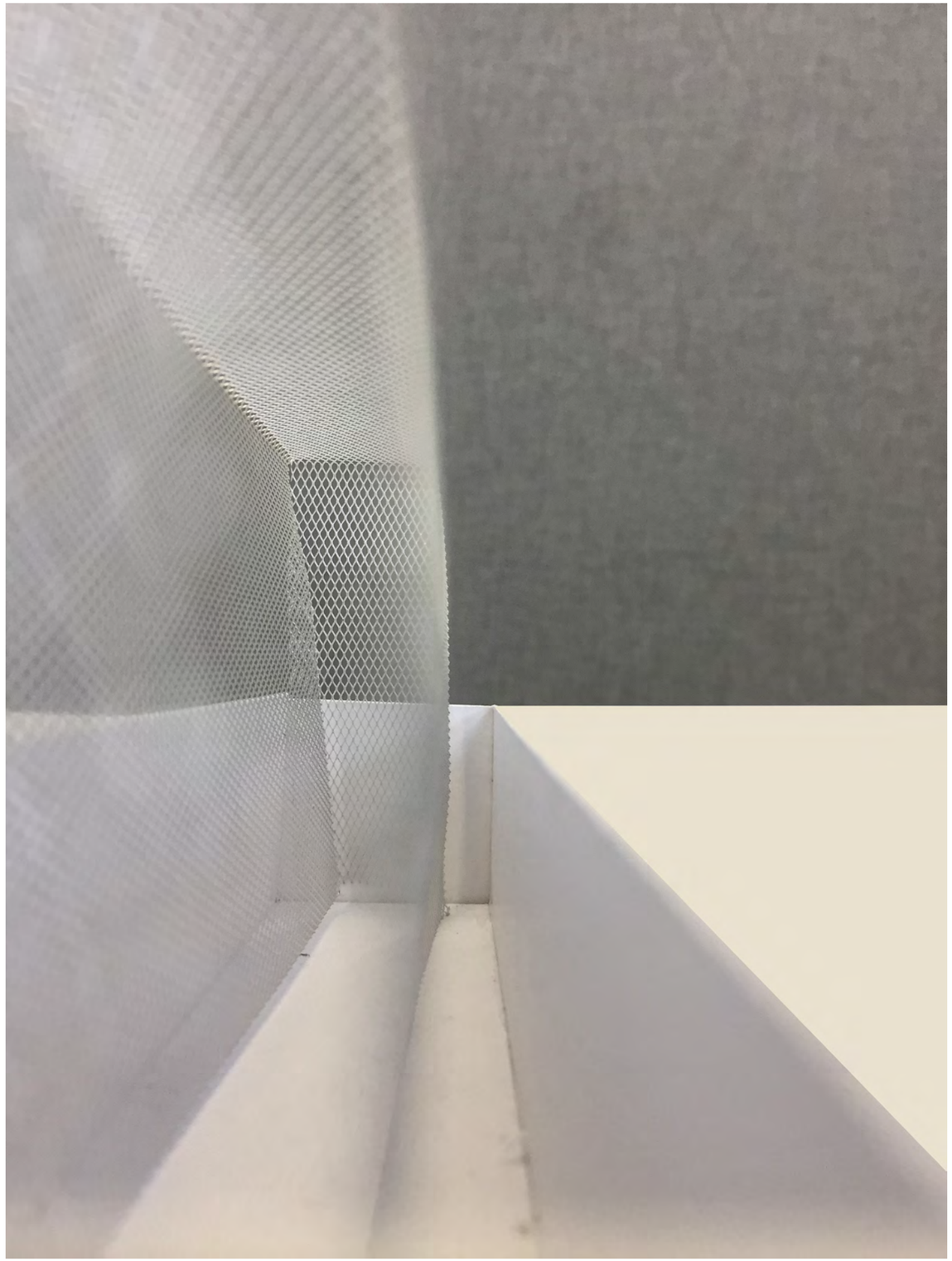
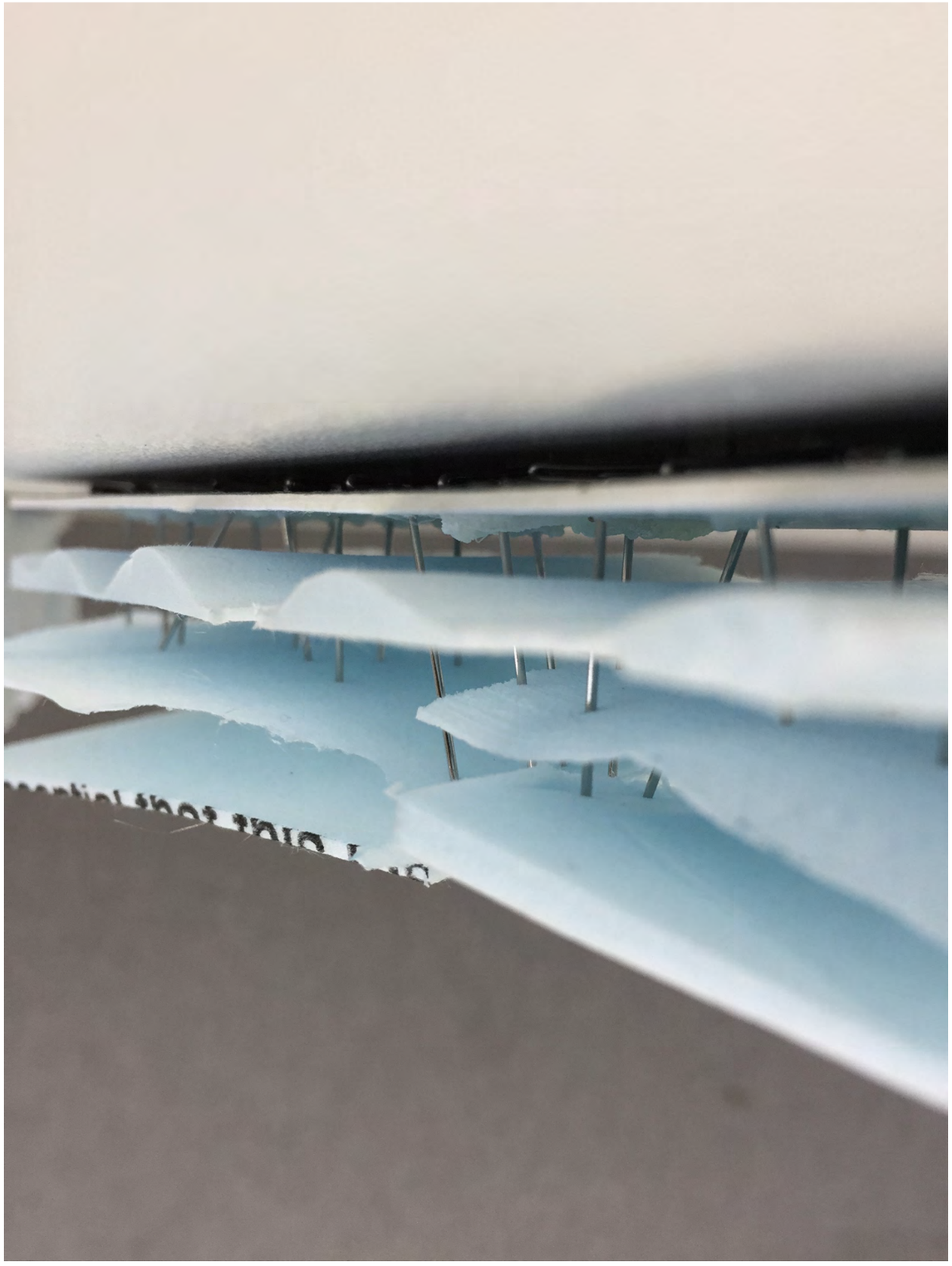
D E C E N T R A L P A R K

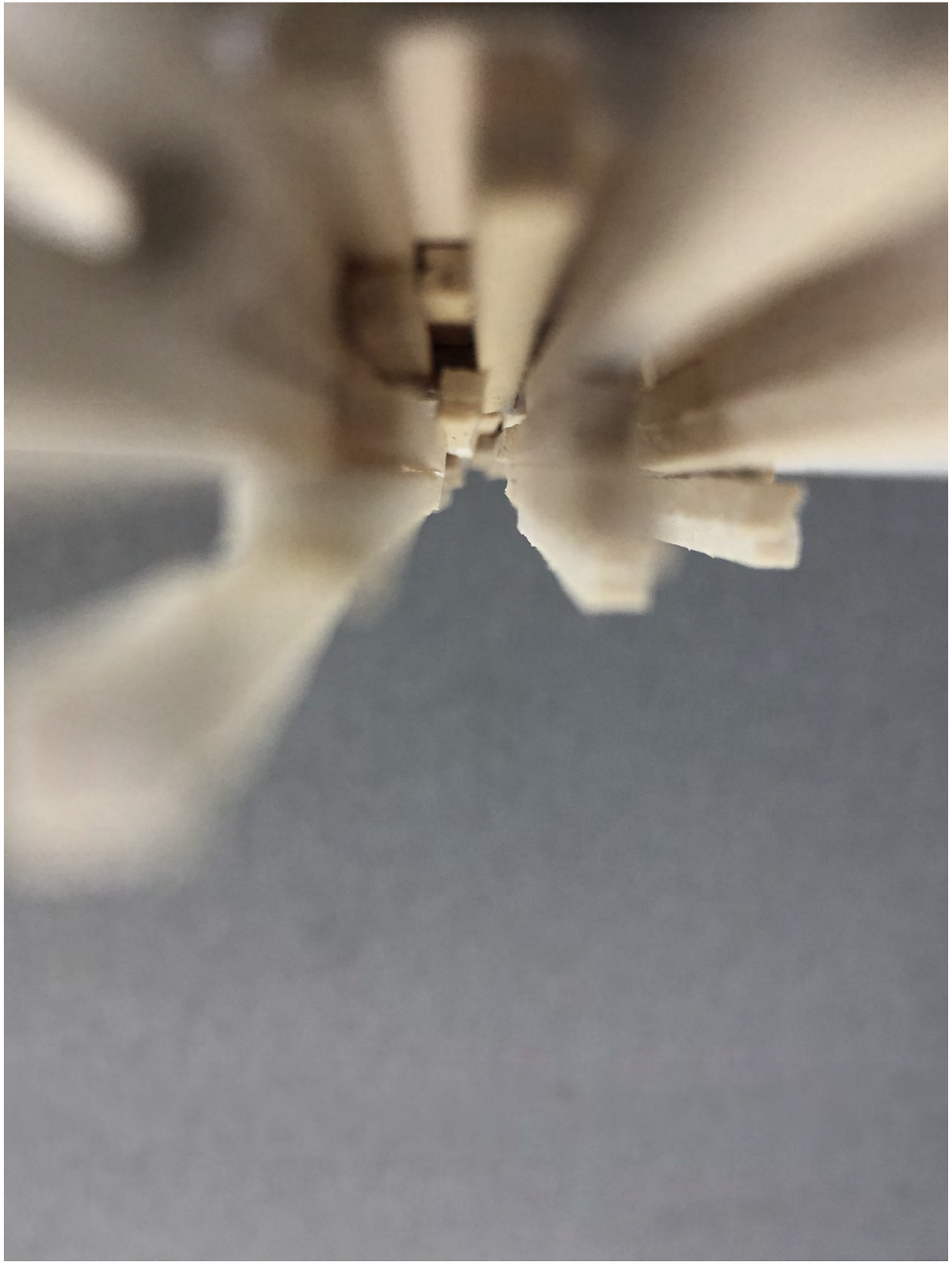
Garrett Wineinger
Fall 2016 | Final Thesis Project
Advisor: Richard Rosa
Syracuse University
School of Architecture

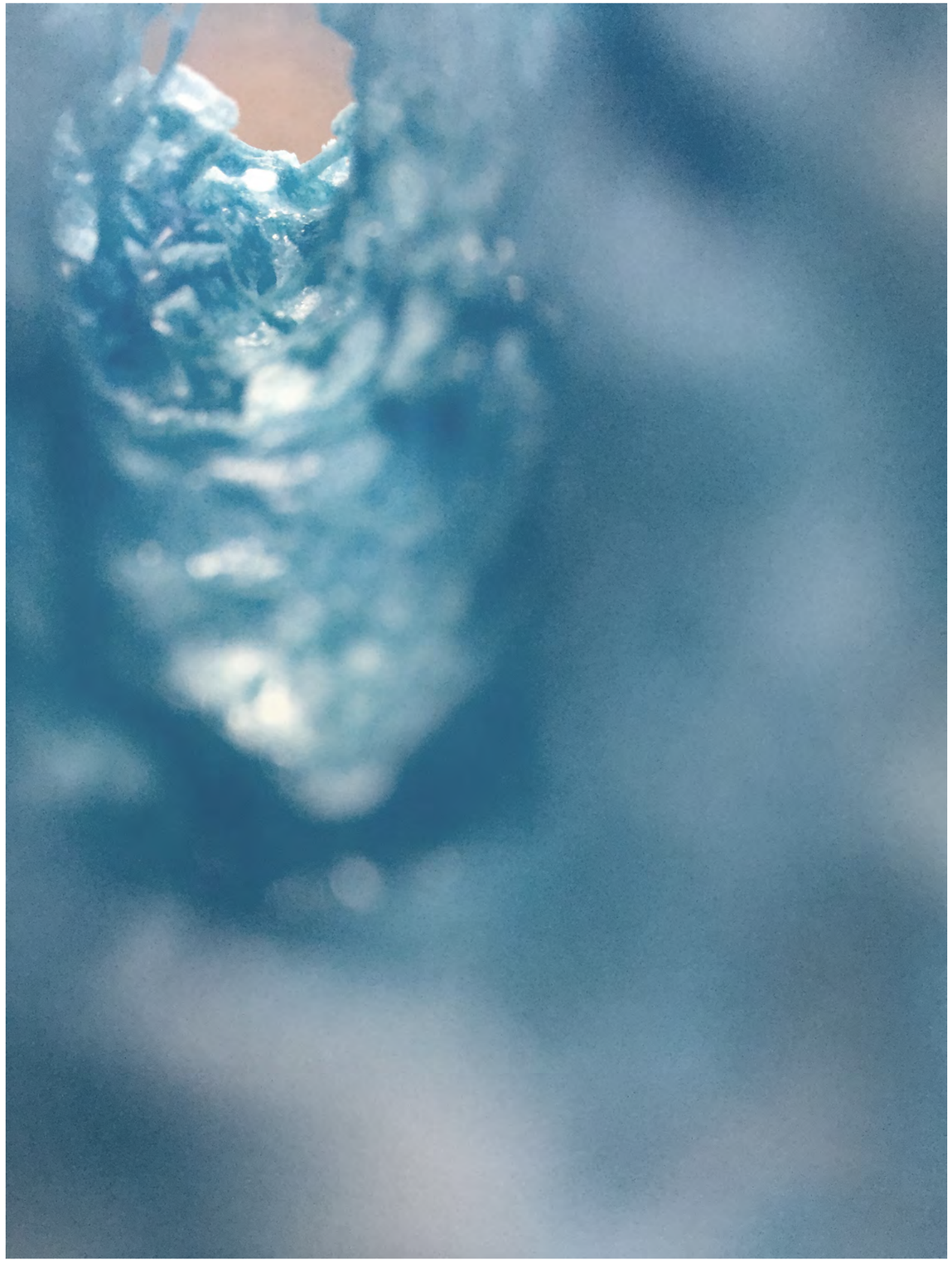
PROCESS

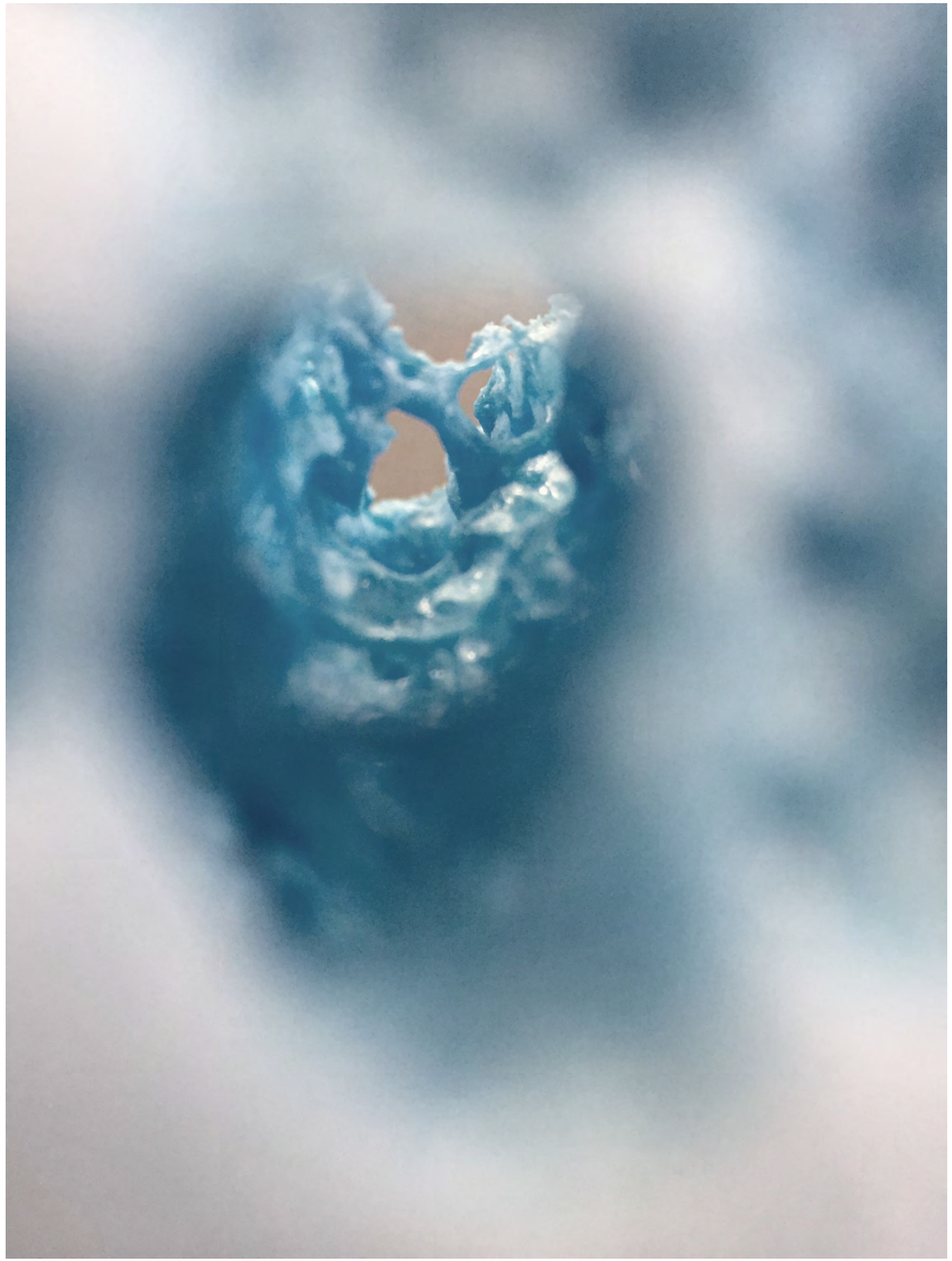


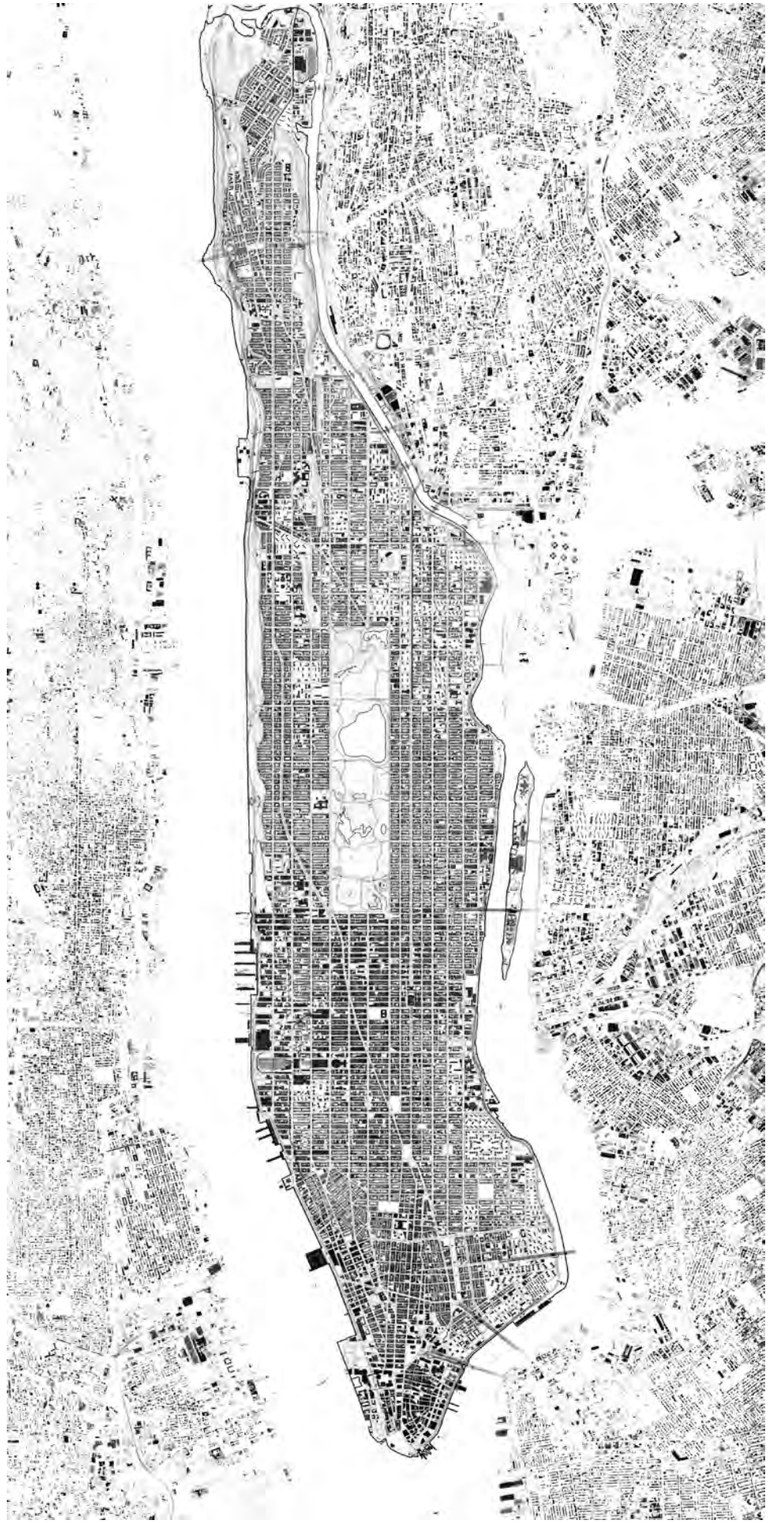


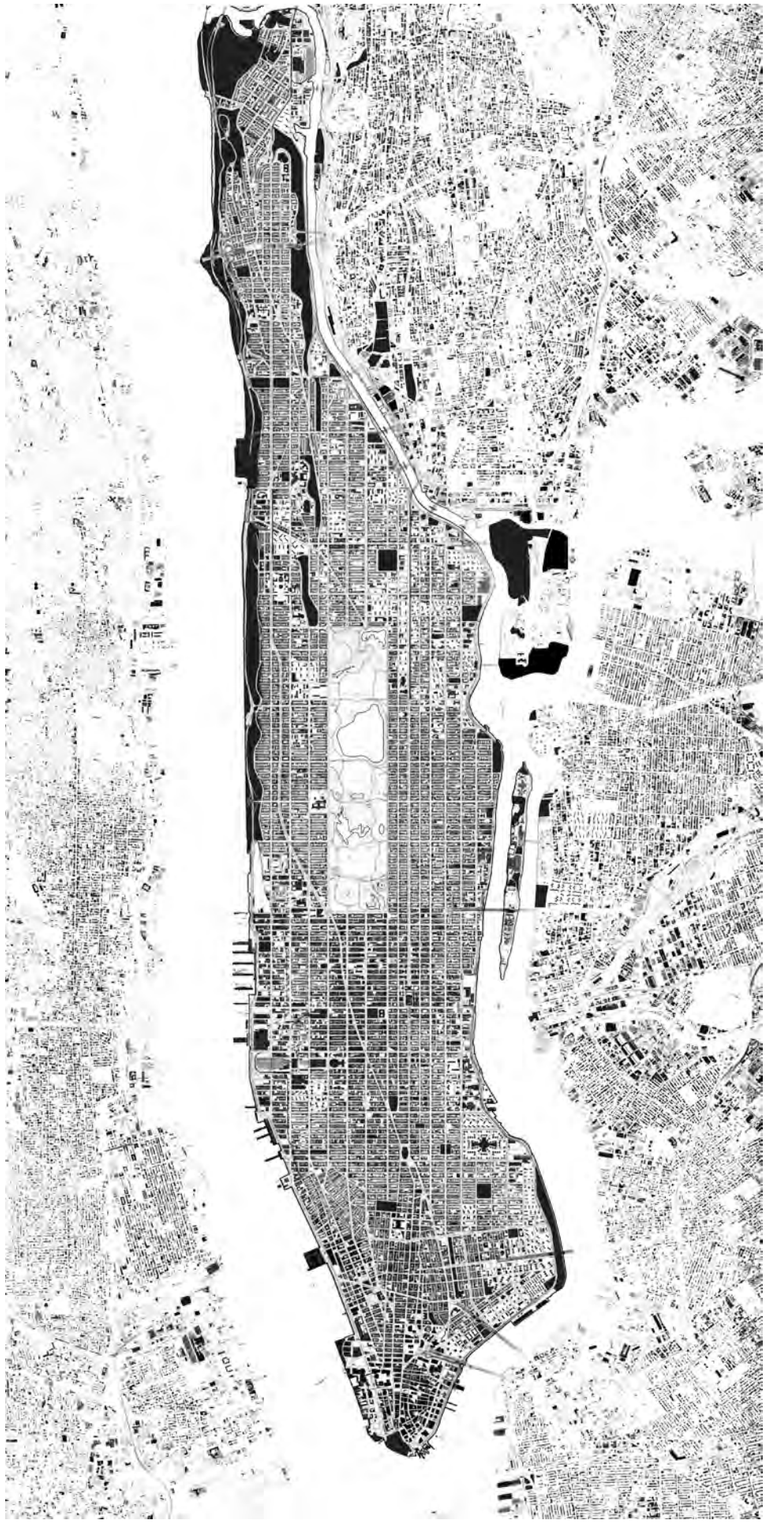


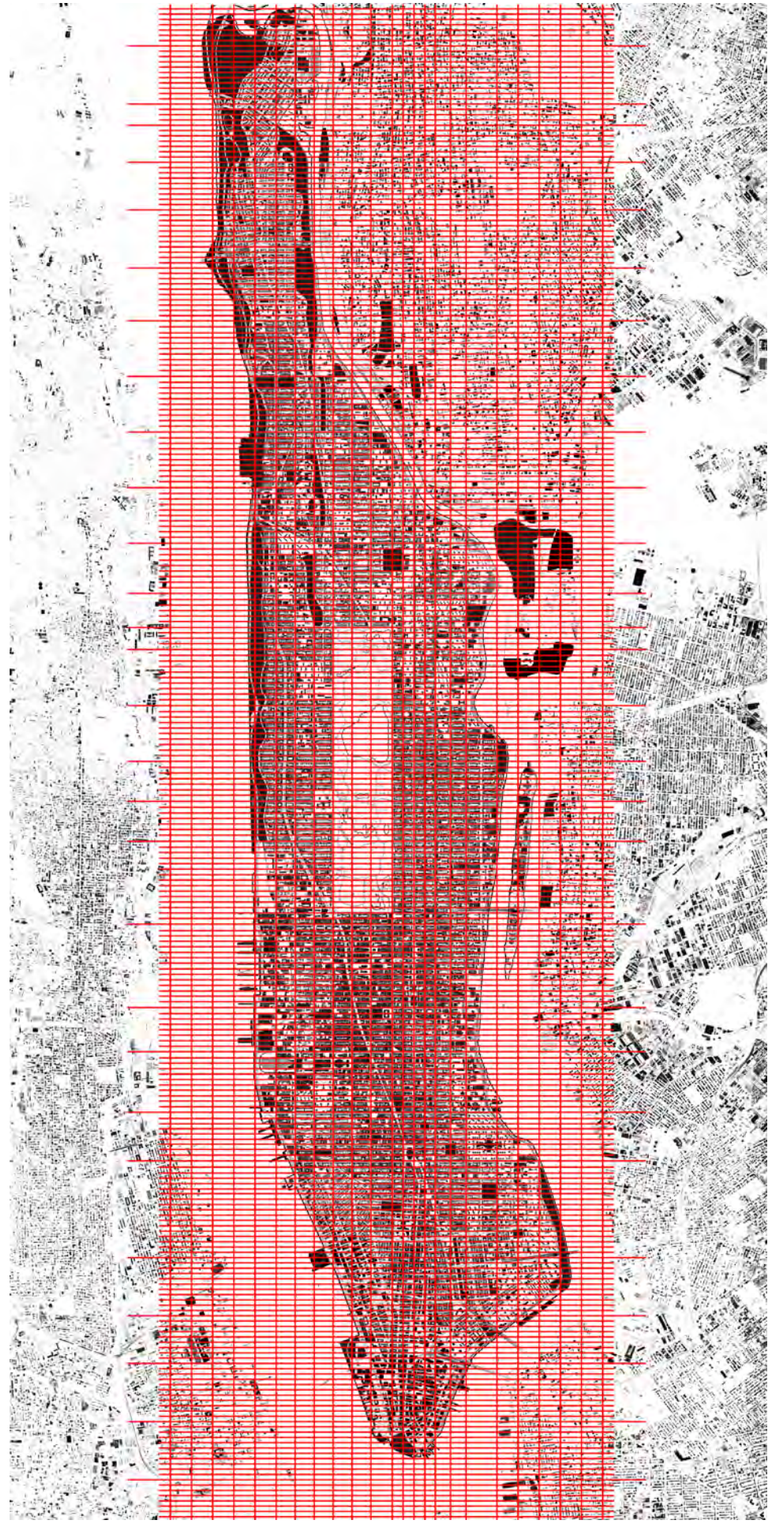


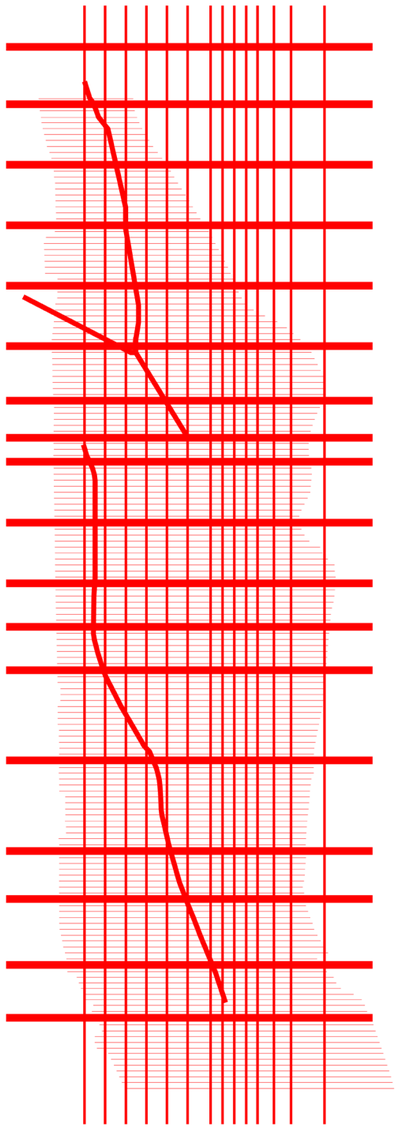


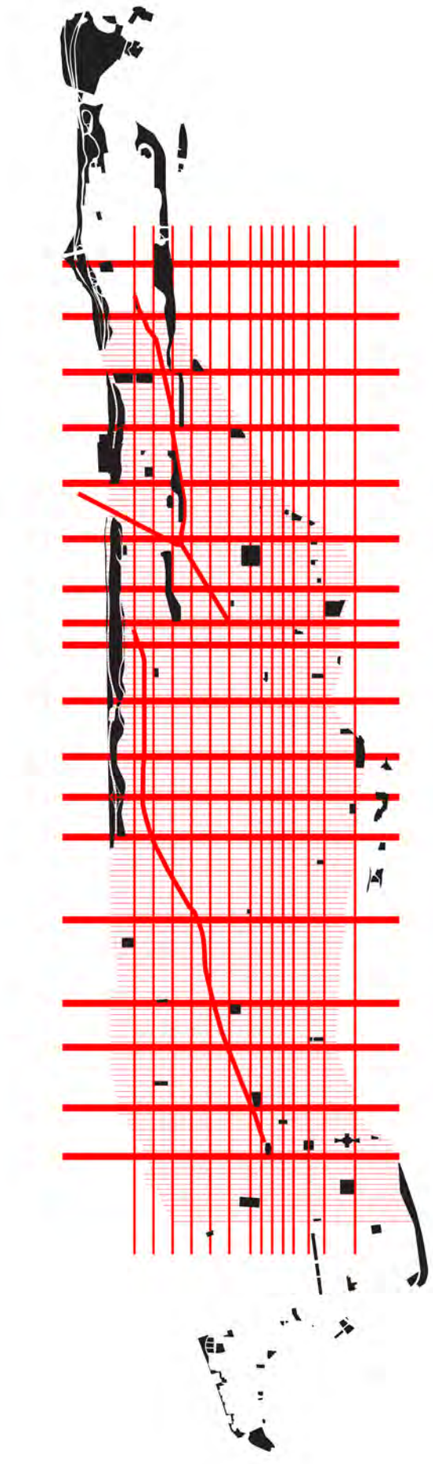


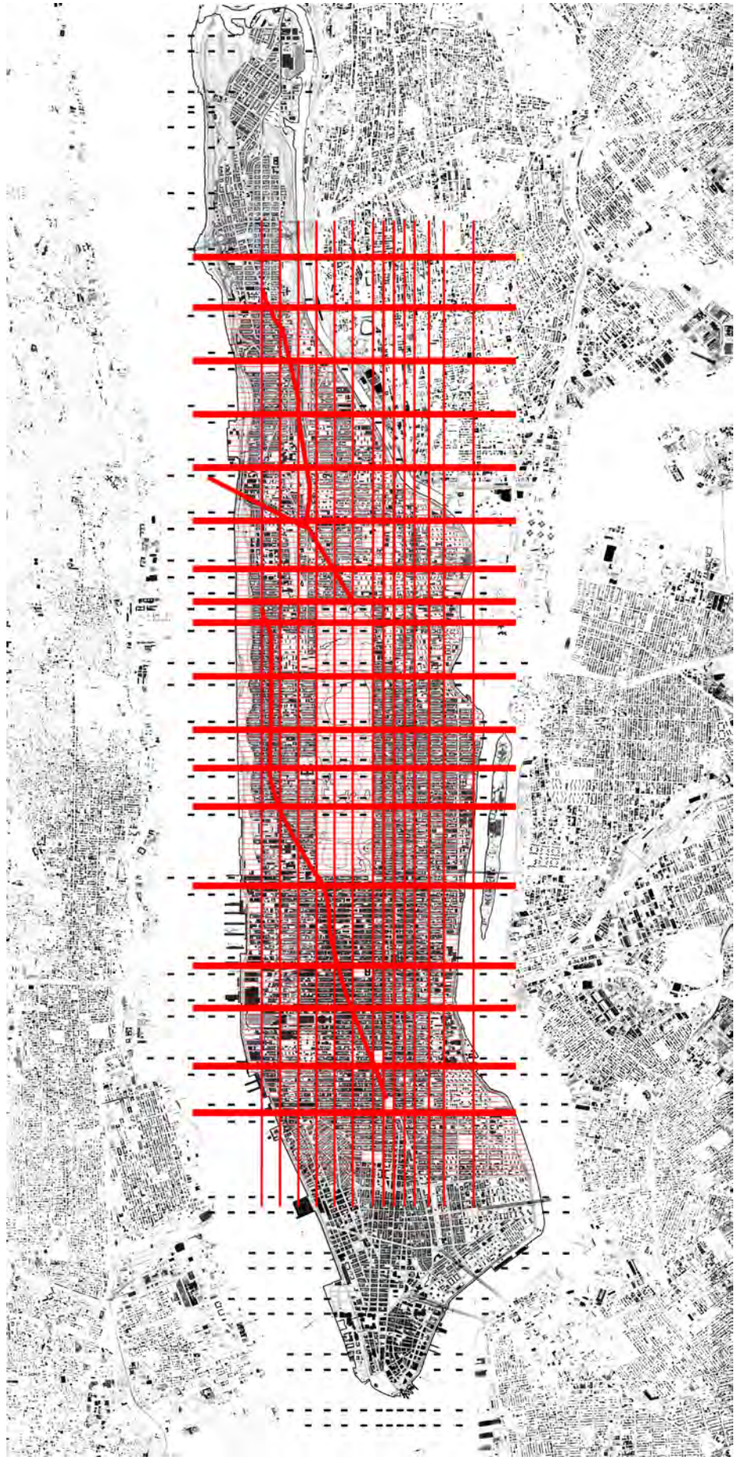


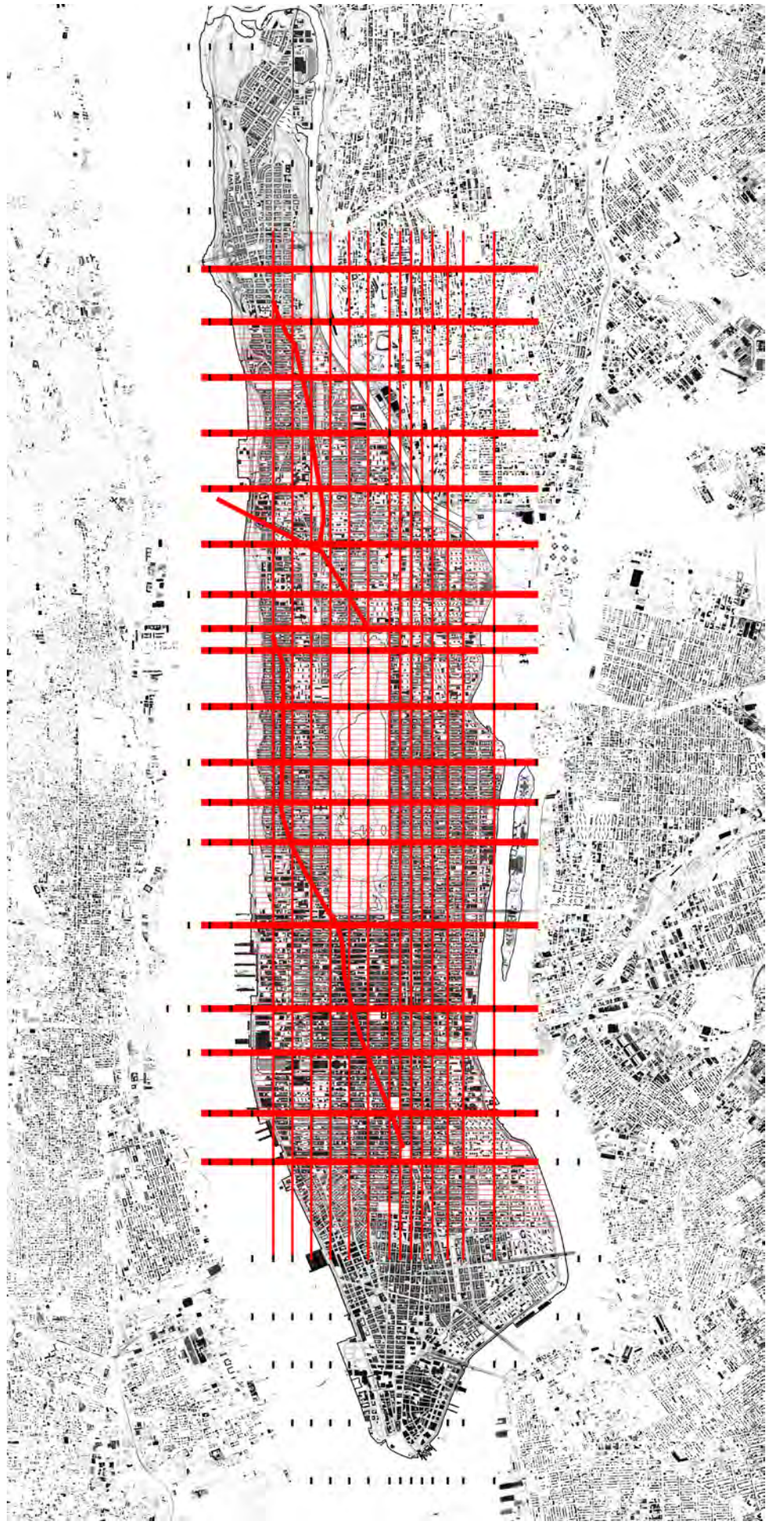


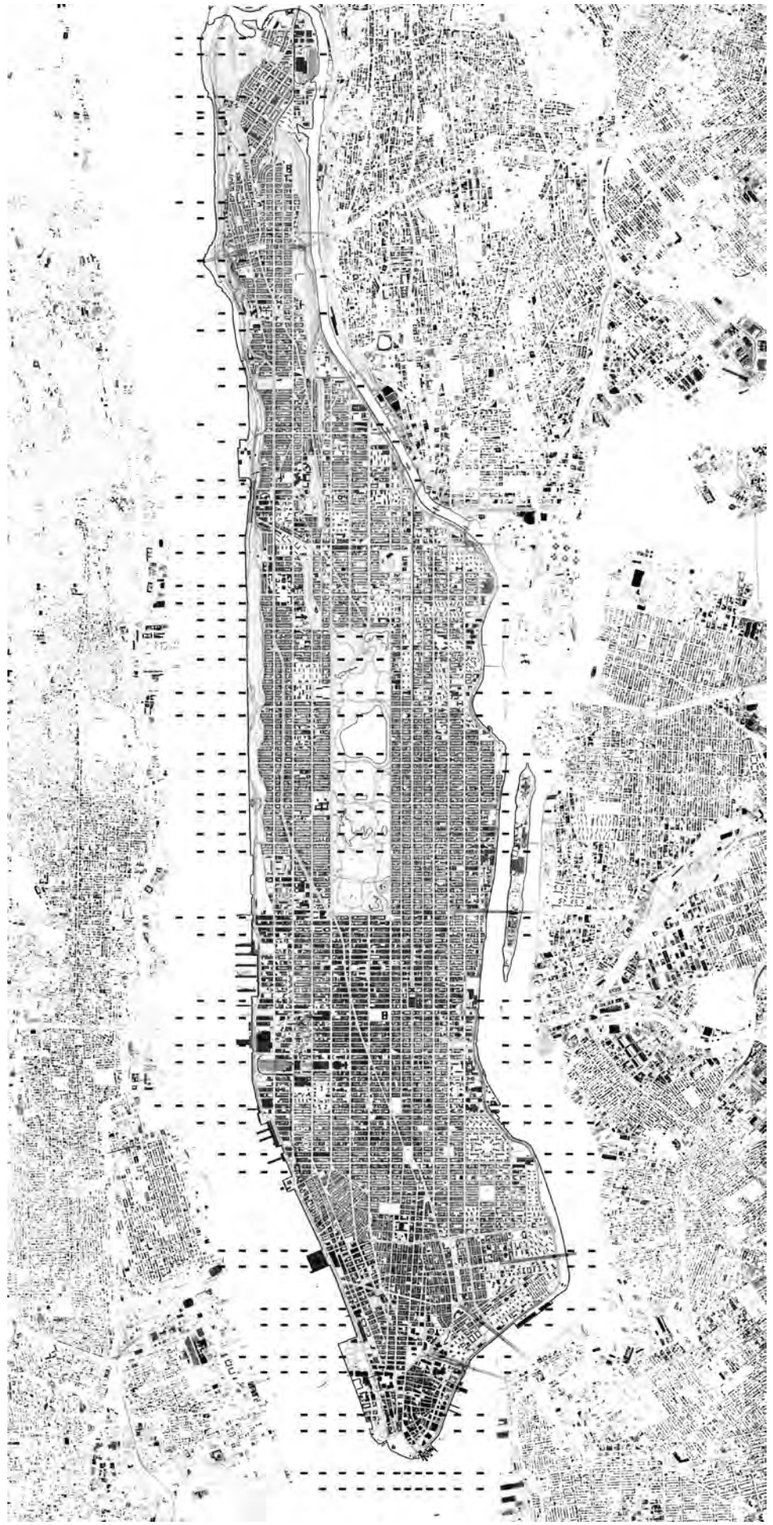


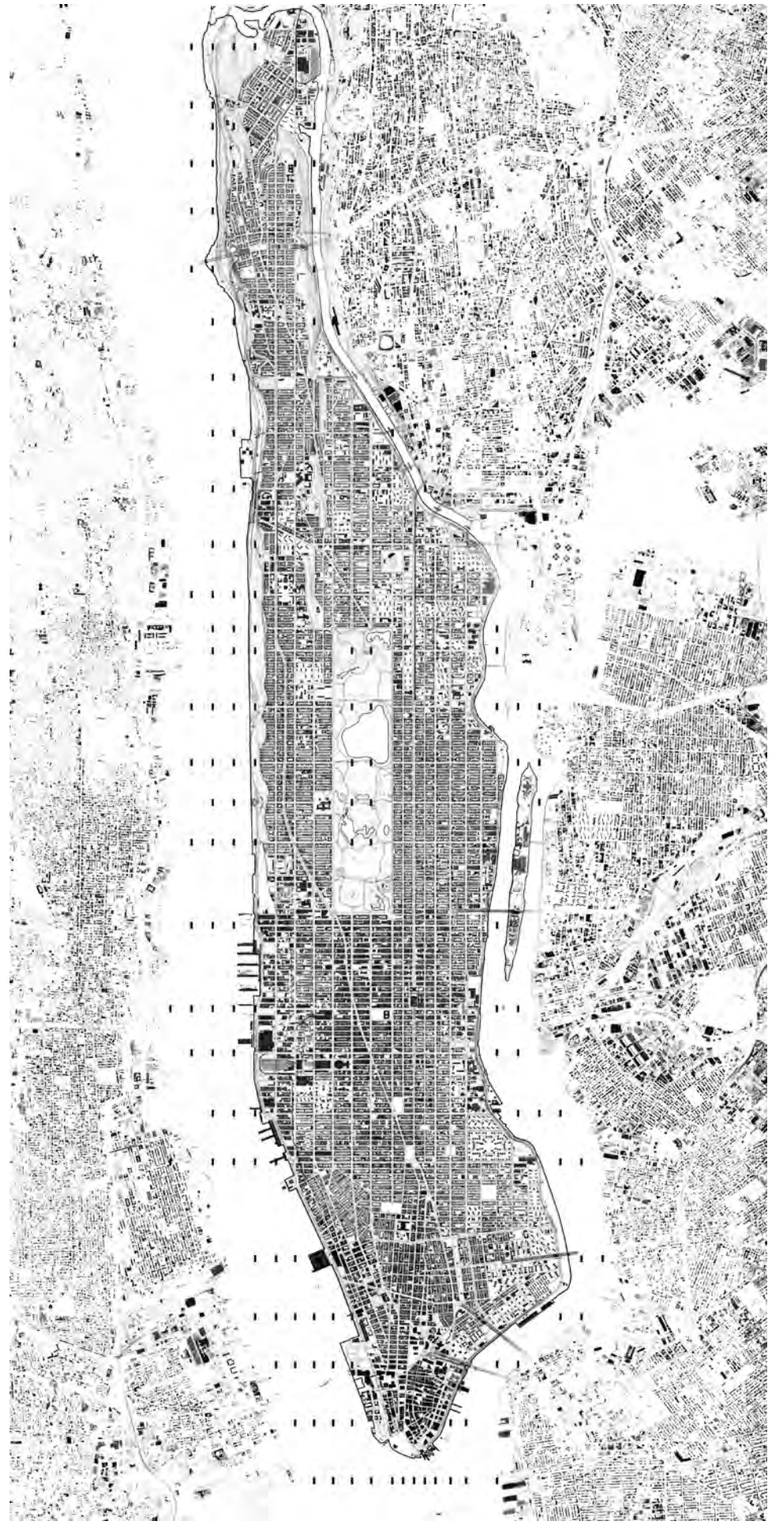












UN. POPULATION DIVI. ESTIMATES:
- OCT. 31 – 7 BILLION
- 2050 – 9 BILLION
- 2100 – 10 BILLION

WORLD 2100

WORLD POPULATION HAS MAXED OUT [7 to 10 BILLION]

RESOURCES MAXED OUT

ENVIRONMENTAL FACTORS

URBAN METROPOLIS

PERSON 2100

- HARVARD UNIVERSITY SOCIOBIOLOGIST EDWARD O. WILSON BASES POP. ESTIMATE ON CALCULATIONS OF THE EARTHS AVAILABLE RESOURCES
  - BOOK: FUTURE OF LIFE
    - "THE CONSTRAINTS OF THE BIOSPHERE ARE FIXED"
- THOMAS MALTHUS 18TH C. PHILOSOPHER ESSAY ON THE DIRE FUTURE OF HUMANITY BASED ON SOCIETAL TENDENCIES
- POPULATION BIOLOGIST JOEL COHEN: COLUMBIA UNIVER. THEORIZES OUR ENVIRONMENTAL FACTORS LIMIT EARTHS CARRYING CAPACITY.
  - ALTHOUGH IT IS UNKNOWN THIS EFFECT THESE WILL HAVE ON POP.

BASED ON A VEGETARIAN DIET

- LIMITED AVAILABILITY OF FRESHWATER
- HUMAN CONSTRAINTS ON AMOUNT OF FOOD EARTH CAN PRODUCE → 1.4 BILLION HECTARES (3.5 BILLION ACRES)
- 3.5 BILLION ACRES COULD PRODUCE 2 BILLION TONS OF GRAINS

ANNUALLY

HE STATES "IF EVERYONE AGREED TO BECOME VEGETARIANS, LIVING LITTLE OR NOTHING FOR LIVESTOCK, THE PRESENT 3.5 BILLION ACRES OF LAND WOULD SUPPORT 10 BILLION PEOPLE

10 BILLION

- PRIMARY INFRASTRUCTURE IS TALL + SUPERTALL BUILDING.
- IF BUILDING TRENDS FOLLOW SAME TENDENCIES AS, POPULATION, NATURAL RESOURCES, WHICH IT MORE THAN LIKELY WILL... % AVAILABLE BUILDING AREA TOO WILL BE SATURATED, AND WILL DEVELOPE AND SKYWARD
- DO PUBLIC SPACES REMAIN AS PART OF METROPOLIS → IS IT A WASTE OF SPACE?

- WHAT IS THE QUALITY OF LIFE FOR AN INDIVIDUAL IN AN ENVIRONMENT OF COMPLETE SATURATION?
  - → 10,100,000,000 PEOPLE
  - → WHAT & WHERE IS OUR SENSE OF ESCAPE?
    - → VIRTUAL REALITY
      - COMPLETE SATURATION OF NATURAL WORLD?
    - → PUBLIC SPACES REMAIN
      - "NATURAL" (MAN-MADE) LANDSCAPES
- ARGUE FOR AN ENVIRONMENT WHERE ACTUAL REALITY ≥ V. R.
- WHAT HAPPENS TO PEOPLES SENSE OF PERSONAL SPACE?

SYSTEMS

⇓

PROXEMICS

THE BRANCH OF KNOWLEDGE THAT DEALS W/ THE AMOUNT OF SPACE THAT PEOPLE FEEL IT NECESSARY TO SET B/W THEM AND OTHERS

$$\int_{\text{EARTH}} \lim = \sum \left[\begin{array}{l} \text{AVAILABLE } H_2O \\ \text{AVAILABLE NAT. RESOURCES} \\ \text{ARTIABLE FOOD} \end{array} \right] \approx \leq 10,000,000,000$$

PUBLIC SPACE
12' OR ~25'
3.6 m – 7.6 m

SOCIAL SPACE
4' OR 1.2 M

PERSONAL SPACE

INTIMATE SPACE
1½' OR 0.45m

NYC POPULATION

2015 – ~~2010~~ – 8.5 million
8,550,405

2100 – ESTIMATED 26.6 MILLION
BASED ON CURRENT GROWTH RATE OF 3.34%

compound annual growth rate

$$CAGR = \left(\frac{V_{end}}{V_{begin}}\right)^{\left(\frac{1}{\#\text{ Periods}}\right)} - 1$$

$$= \left(\frac{26,621,401}{19,140,024}\right)^{\left(\frac{1}{10}\right)} - 1$$

$$= 3.34\%$$ HYSTERIC

NYC SURFACE AREA

304.6 miles² ≈

FROM PREVIOUS CALCULATIONS

AREA IS

INTIMATE SPACE	= 0.64 m²	(A)
PERSONAL SPACE	= 4.52 m²	(B)
SOCIAL SPACE	= 40.71 m²	(C)
PUBLIC SPACE	= 181.46 m²	(D)

(A) 0.64 m² x 26,600,000
= 17,024,000 m²
= 6.57 miles²

(B) 4.52 m² x 26,600,000
= 120,232,000 m²
= 46.42 miles²

(C) 40.71 m² x 26,600,000
= 1,082,886,000
= 418.10 miles²

(D) 181.46 m² x 26,600,000
= 4,826,836,000
= 1,863.65 miles²

in 2100 THE POPULATION OF NYC WILL HAVE AT MOST, GUARENTEED PERSONAL SPACE, HOWEVER NO SOCIAL SPACE, OR PUBLIC SPACE.

NYC URBAN LANDSCAPE SURFACE AREAS

CENTRAL PARK = 1.317 miles²

AVERAGE NUMBER OF VISITORS PER DAY IN C.P.
WINTER – 40,000
SUMMER – 220,000 in ~~2015~~ 2011

NYC POPULATION CONT.

2015 – ~~BY~~ 8,550,405
2025 – 20.63 million
2050 – 24.77 million
2075 – 27.19 million
2100 – 27.25 million

Average Compound annual growth rate

$$CAGR = \left(\frac{V_{end}}{V_{begin}}\right)^{\left(\frac{1}{\#\text{ Periods}}\right)} - 1$$

$$= \left(\frac{28,250,000}{8,550,405}\right)^{\left(\frac{1}{4}\right)} - 1$$

growth rate = 33.61 %

NYC HAS GROWN 4.6% FROM 2010 TO 2015.

HOWEVER THE PROJECTED 2100 POPULATION SHOWS A 33.61% GROWTH OVER 4 PERIODS.

SO, WORST CASE SCENERIO....

$$\frac{X}{220,000} = \frac{33.61\ \%}{100}$$

$100X = 7,384,200$

$X = 73,942$

73,942 x 4 periods
= 295,768

220,000
+ 295,768
515,768 visitors in one day in 2100.

(A) 0.64 m² x 515,768 = 330,091.52 m²
= 0.127 miles²

(B) 4.52 m² x 515,768 = 2,331,271.36 m²
= 0.900 miles²

(C) 40.71 m² x 515,768 = 20,996,915.3 m²
= 8.107 miles²

(D) 181.46 m² x 515,768 = 93,591,261.3 m²
= 36.136 miles²

$\frac{X}{8,550,405} = \frac{4.6}{100}$

$100X = 39,331,863$

$X = 393,318.63$ every 5 yrs.

85 yrs to 2100

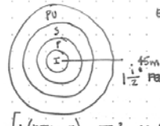
$\frac{85}{5} = 17$ cycles increased at 4.6%

$(393,318.63)\,17$
$= 6,686,416.71$

at a 4.6% growth rate, NYC pop will be at 15,236,821.7 in ~~the~~ 2100.

However this is ~~obviously~~ probably lower than stated will be due to the continuous ↑ growth rate of NYC.

EVEN DISPERSMENT OF PEOPLE GLOBALLY



$$\left[A\left(\text{INTIMATE SPACE}\right) = \pi r^2,\ r = .45\text{m} = \pi(.45\text{m})^2 = 0.636\ \text{m}^2\right] \times \left(10 \times 10^9\right) = 6,360,000,000\ \text{m}^2$$

$$\text{SURFACE AREA}\left(\text{EARTH}\right) = 4\pi r^2$$

EARTHS RADIUS = 3,959 miles

so

$= 4\pi(3,959\ \text{miles})^2$

$= 196,961,284\ \text{miles}^2$ = 2455.61 miles²

includes water....

EARTH = 71% WATER + 29% LAND

$29\%\ (196,961,284\ \text{miles}^2) =$ 57,268,900 miles²

$$\left[A\left(\text{PERSONAL SPACE}\right) = \pi r^2,\ \text{where } r = 1.2\text{m} = \pi(1.2\text{m})^2 = 4.52\ \text{m}^2\right] \times \left(10 \times 10^9\right) = 45,238,754,211.69\ \text{m}^2$$

= 17,466.85 miles²

$$\left[A\left(\text{SOCIAL SPACE}\right) = \pi r^2,\ \text{where } r = 3.6\text{m} = \pi(3.6)^2 = 40.71\ \text{m}^2\right] \times \left(10 \times 10^9\right) = 407,100,000,000\ \text{m}^2$$

= 157,182.19 miles²

$$\left[A\left(\text{PUBLIC SPACE}\right) = \pi r^2,\ \text{where } r = 7.6\text{m} = \pi(7.6\text{m})^2 = 181.46\ \text{m}^2\right] \times \left(10 \times 10^9\right) = 1,814,600,000,000\ \text{m}^2$$

= 700,620.98 miles²

out of 57,268,900 miles²

* THESE CALCULATIONS ARE BASED ON EARTHS LAND SURFACE AREA IN 2016, NOT 2100. DOES NOT ACCOUNT FOR SEA LEVEL RISES + OTHER LAND FORMATION PREDICTIONS.

→ DO SAME THING W/ MANHATTAN

---

protocol screen play w/ set model

- Drop outer crust down mid to explain how we get there
- give a person to follow
  - explain his day to day
    - where they get water
    - get to work
    - eat
    - produce a world
- show images of super-super tall buildings, little sunlight down
- produce a design that responds to our impending crisis.
  - we keep moving toward advanced urbanism with low effort on our ramifications of our infrastructure.
- & then central park is overshadowed, a revision is needed to use the land of central park to respond to needs
- a decentralized central park or central park becomes a virus that takes back the city.
- central park expands its fingers into all available territory.
  - with priority of necessitys.

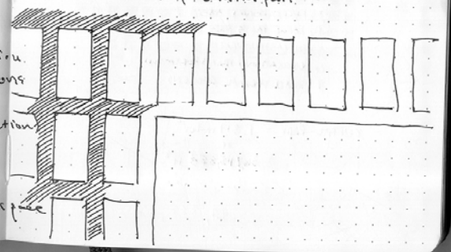
(1) Resource Reservoirs / Food production
(2) Nature reserves / Animal preservations
(3) Recreational Areas
(4) Large Formal Parks (Trees, air production)
(5) Infrastructural
(6) Transportation / Circulation
(7) Small formal parks in interstitial space

give a scenario

PARAMETERS
- road are ~~are~~ obsolete
- building density is at max
- sea level rises 6 feet
- population 10 billion

→ Central Park After ~~Horizontal~~ skyscraper development

- create map of manhattan in 2100.
  + ~~CROSS~~ Section
- DIVIDE up central park



the year is 2100,

- what the park offers now that you don't want to lose w/ the new infrastructure

Central park "contaminating" the future of Manhattan to combat the impending predictions of the future.

2100 PREDICTIONS

- POPULATION OF 10 BILLION
- SATURATION OF NATURAL RESOURCES
- Autonomous transportation

1. RESOURCE RESOVOIRS / FOOD PRODUCTION
2. NATURE RESERVE / ANIMAL PRESERVATIONS
3. RECREATIONAL AREAS
4. LARGE PARKS
5. INFRASTRUCTURAL
6. CIRCULATION / TRANSPORTATION
7. SMALL FORMAL GARDENS

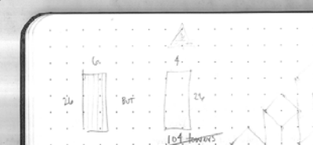
CENTRAL PARK = 1.317 miles^2
or
36,715,653 ft^2

Olmsted said in the Park the city should not exist. However what if we were developing ~~infrastructure~~ our world in a ~~wrong~~ thus is proven to be impossible, what would our urban parks evolve to?

In the year 2100 it is predicted that our population will reach 10 billion people, 24 million living in the NYC area, we mean depleating our our natural resources, and climate change has cause a 6 foot increase in sea level rise.

At this rate, the human - nature connection has the potential to be disconnected. Through development in technology our sense of reality is transforming into one on multiple spectrums. The innovation of virtual reality could begin to replace our connection

100 blocks 10,000 ft^2

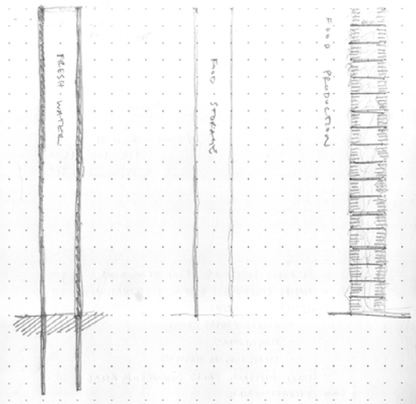


towers 100' 100' 1500'

VOLUME = B · W · H
100 · 100 · 1500
= 15,000,000 ft^3

1. RESOURCE RESOVOIRS | FOOD PRODUCTION 20
2. NATURE RESERVE | ANIMAL PRESERVATIONS 20
3. RECREATIONAL AREAS 20
   - SPORTS COURTS / FIELDS
   - PLAYGROUNDS
   - SMALL FORMAL GARDENS
4. LARGE INFORMAL PARKS | GATHERING AREAS 20
5. INFRASTRUCTURAL 10
   - VISITOR CENTERS
   - CONSERVATORIES
   - EDUCATIONAL CENTERS
6. CIRCULATION | TRANSPORTATION 10

① RESOURCE RESOVOIRS | FOOD PRODUCTION 20

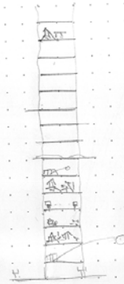


ENERGY TOWERS?
SOLAR PANELS
WIND MILLS

② NATURE RESERVES | ANIMAL PRESERVATIONS 20

THEMES
MOUNTAIN ECOSYSTEMS
WATER BASED LIFE
CAMPING

③ RECREATIONAL AREAS 20
- SPORTS COURTS | FIELDS
- PLAYGROUNDS
- SMALL FORMAL GARDENS



④ LARGE FORMAL PARKS 20

BUF ①
VERTICAL ④
HOR ②
CONNECTS ⑤
GARDEN ③
RECR ⑥

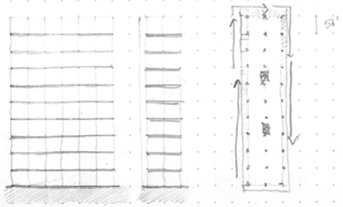
- towers as blocks, off grid responds to surrounding context

⑤ INFRASTRUCTURAL

- Redistribute program to make more used towers?
- what programs could work?
- Interconnected w/ Large formal parks

PROGRAMS 2-7 can be interweaved to create mixed use towers.

- towers blocks primary, secondary, ...
- research grid
- what they are, what they react to, ect.
- distortion could be necessity
- richer analysis of structure of what to determine grid 1 grid, 2 grid, 3 ...



2100 PREDICTIONS

- WORLD POPULATION MAXED OUT
  - 9-10 BILLION PEOPLE
  - MANHATTAN 27 MILLION
    - SATURATION OF PUBLIC SPACE
    - LIMITED PUBLIC SPACE
    - INFRASTRUCTURE > "NATURAL LANDSCAPE"
- AVAILIBILITY OF NATURAL RESOURCES
  - FRESH WATER
  - FOOD
  - ENERGY
- SATURATED METROPOLIS
  - NO AVAILIBLE SPACE FOR PUBLIC
  - OPEN SPACE OUT SHADOWED BY INFRASTRUCTURE ; NO SUNLIGHT AT G.L.
- VIRTUAL REALITY > NATURAL ESCAPE

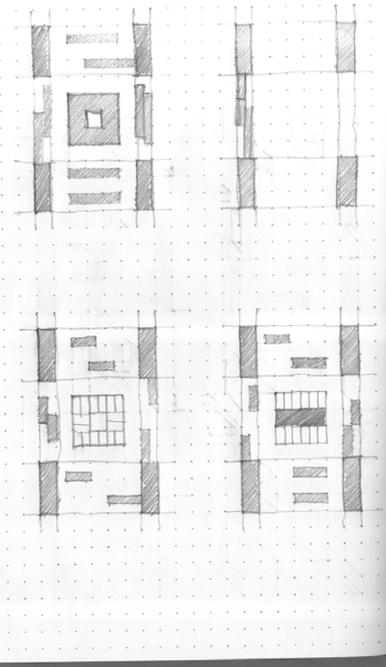
PROGRAM

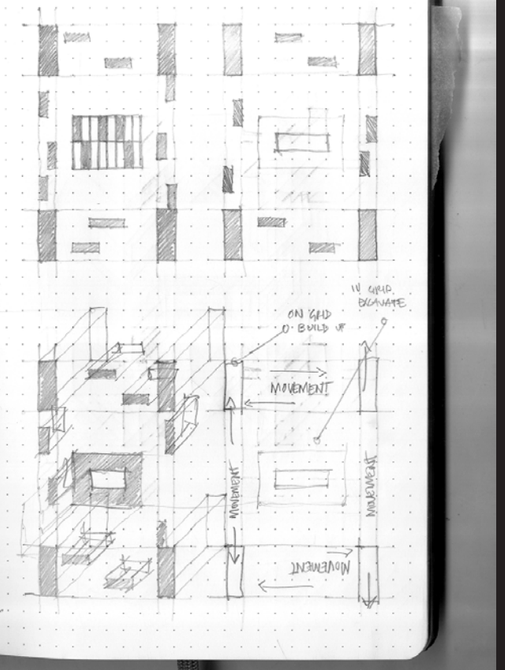
- VERTICAL RECREATIONAL PUBLIC TOWERS — A
  - LIVE GATHERING AREAS
  - SMALL FORMAL GARDENS
  - SPORTS COURTS + FIELDS
  - PLAYGROUNDS
- H_2O RESERVOIR TOWERS — B
- VERTICAL FARMS — C
  - CROP FIELDS
  - ANIMAL GRAZING
- FOOD STORAGE TOWERS — D
- ENERGY PRODUCTION TOWERS — E, E_1, E_2, E_3
  - WATER - WIND - SOLAR
- VERTICAL NATURE PRESERVES AND ANIMAL PRESERVATIONS — F, F_1
  - 5/8 - VERTICAL MUSEUMS, NO VISITORS
  - 3/8 - " , VISITORS WELCOME FOR SPECIALITY ACT. : HIKING, ROCK CLIMBING, ETC.

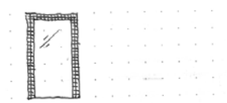
OPTIMISTIC VIEW, HUMANS STRIVING TO KEEP PEOPLE CONNECTED TO NATURAL LANDSCAPE, THE REAL PICTURESQUE

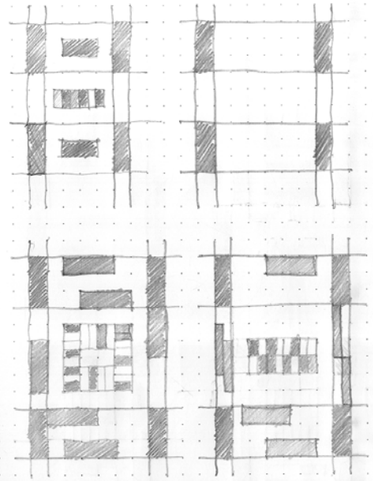
? TOWERS AS SINGLE PROGRAM OR MIXED USED ?

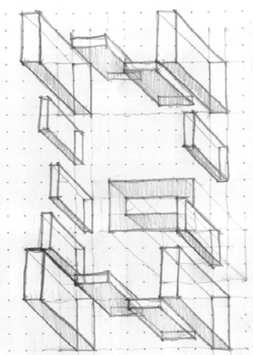
MIXED

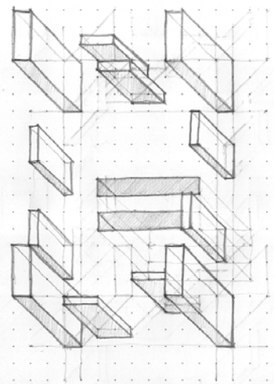


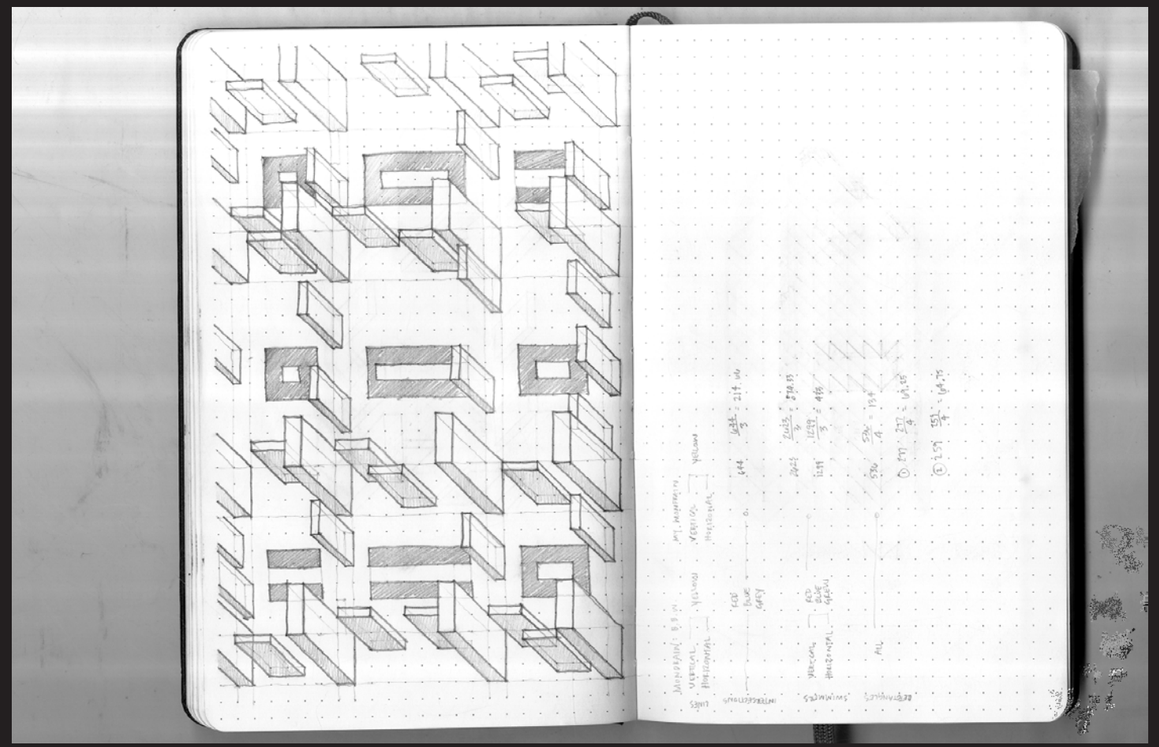


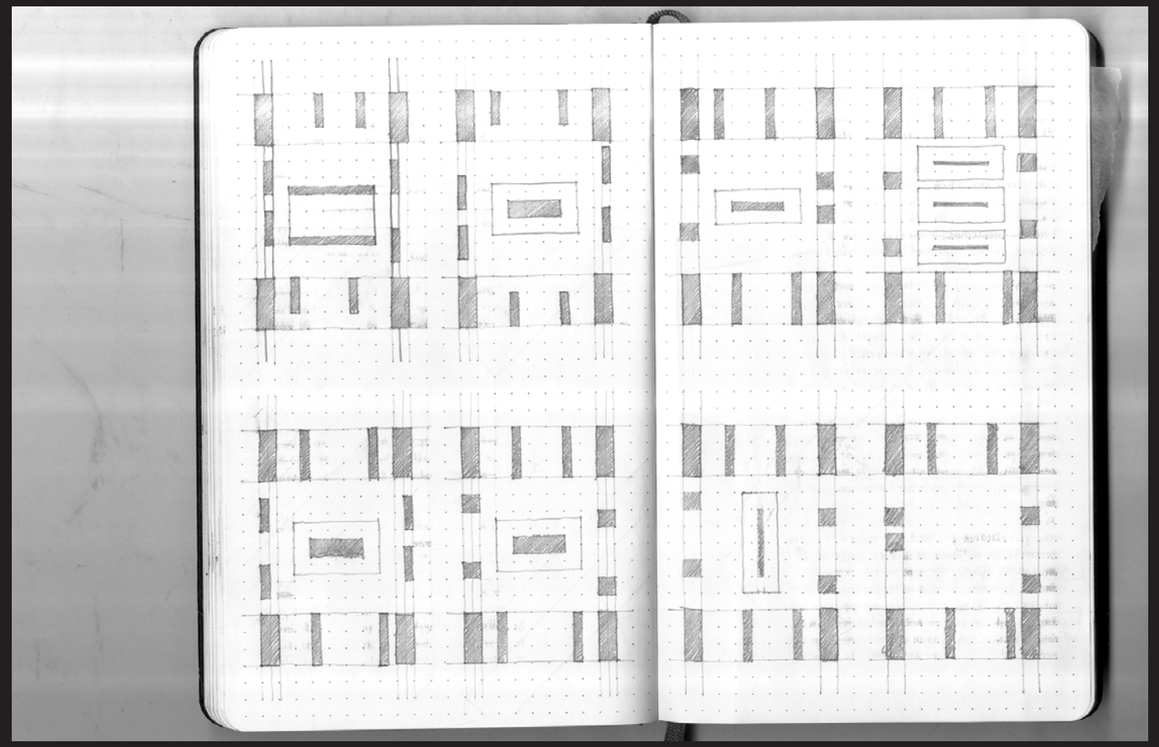












PROPORTION OF STANDARD MANHATTAN BLOCK ..... SURFACE AREA

900'

264' : 279'

≈ 1/5

PROPORTION OF CENTRAL PARK ..... HEIGHT

18,525'

2715'

≈ 1/5

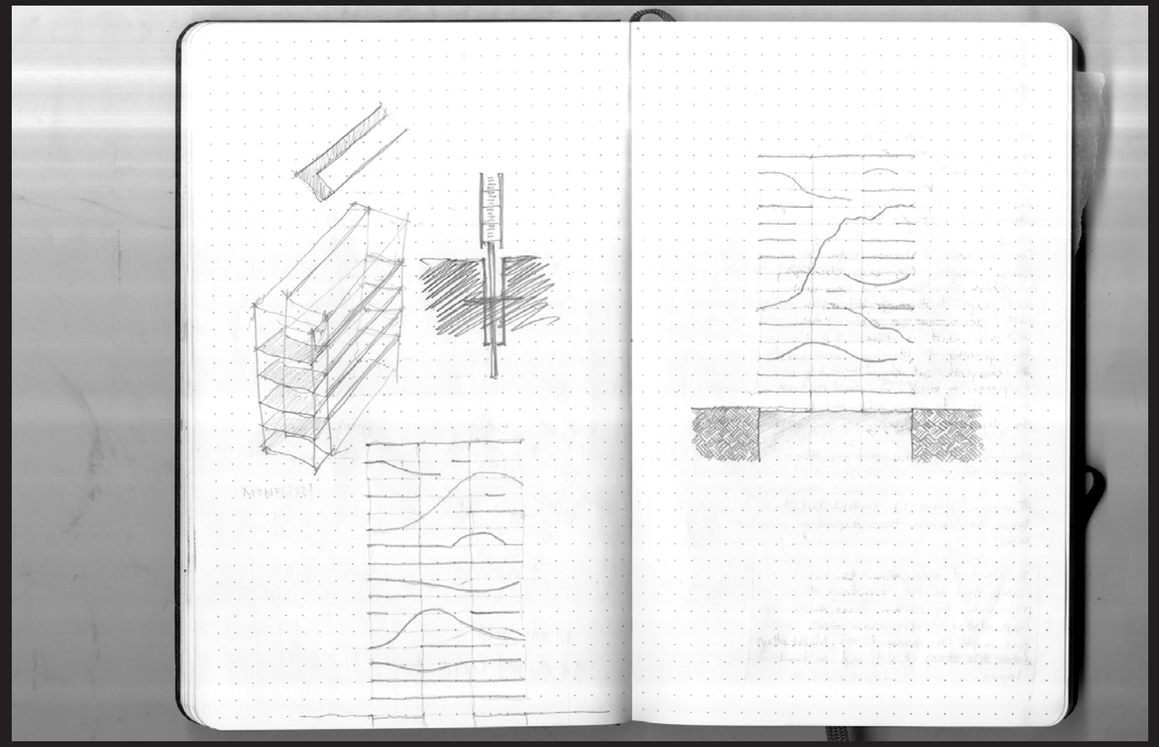
2715'

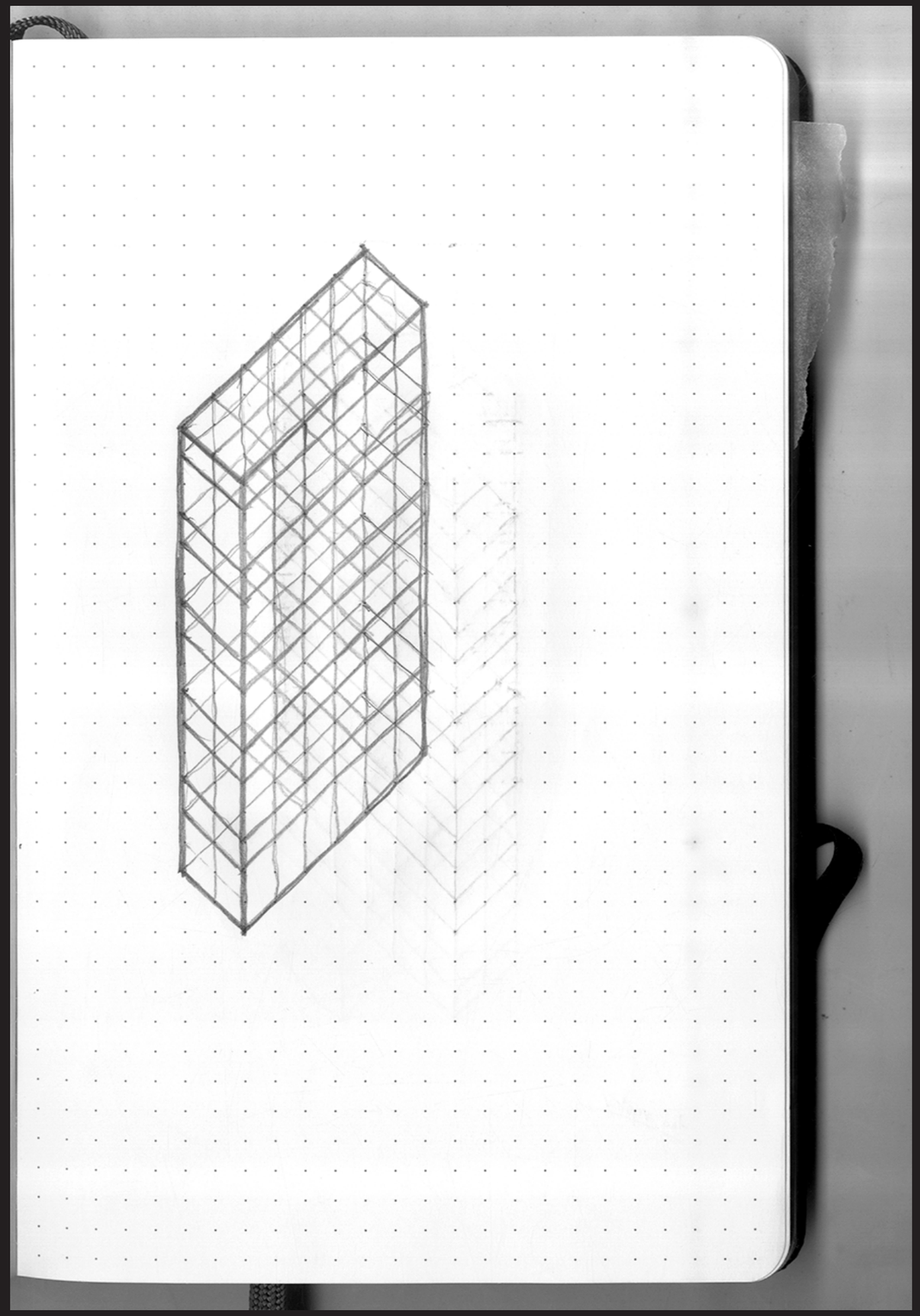
12,525'

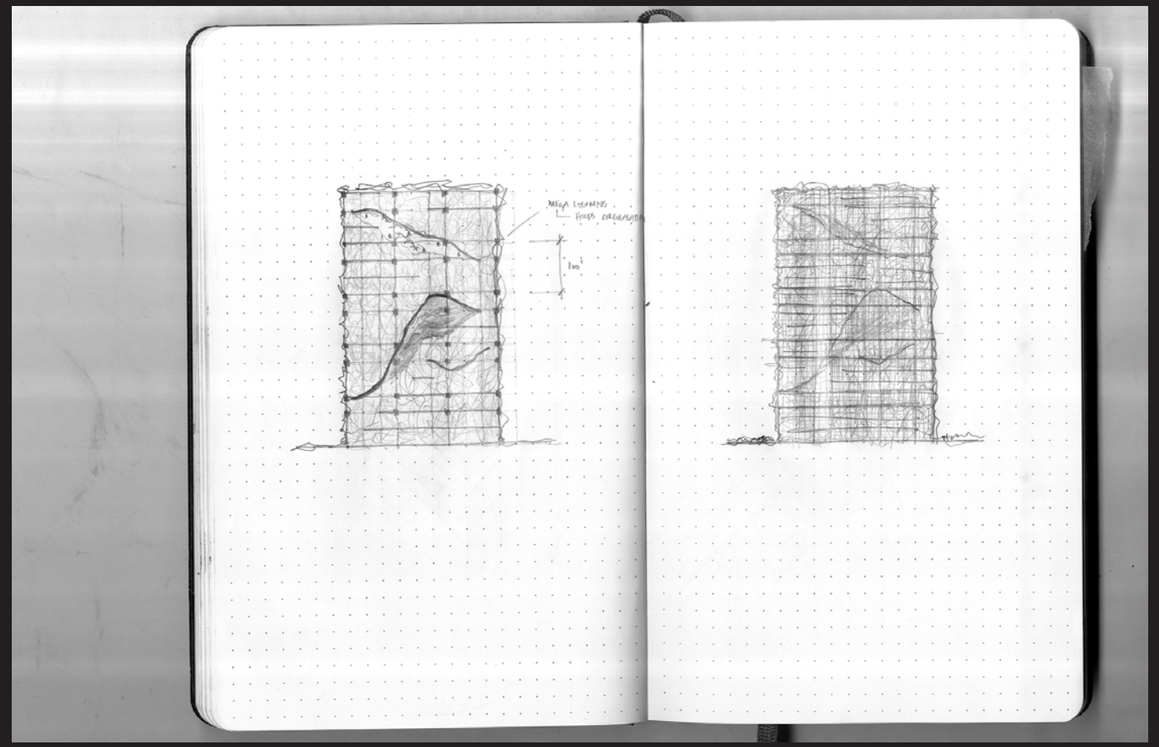
100'

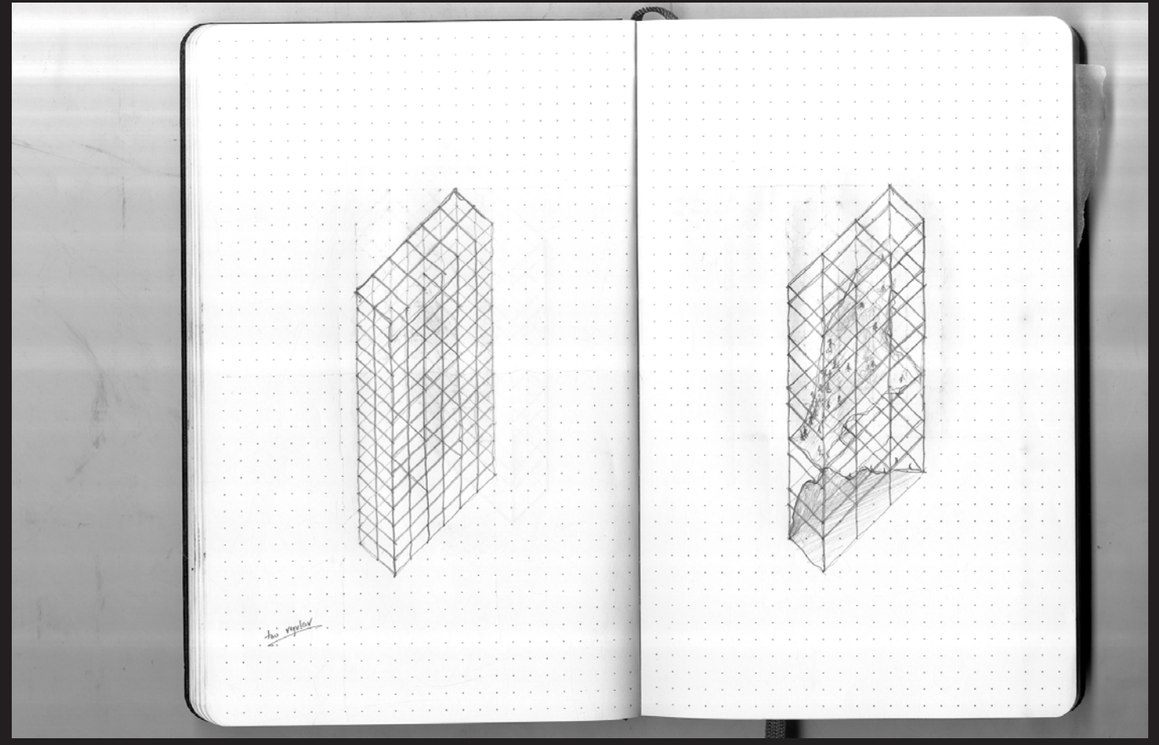
500'

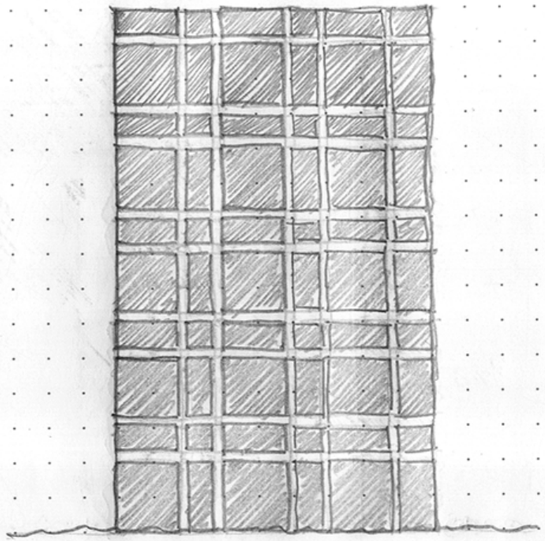
MODULAR UNITS
STACKABLE OVER TIME

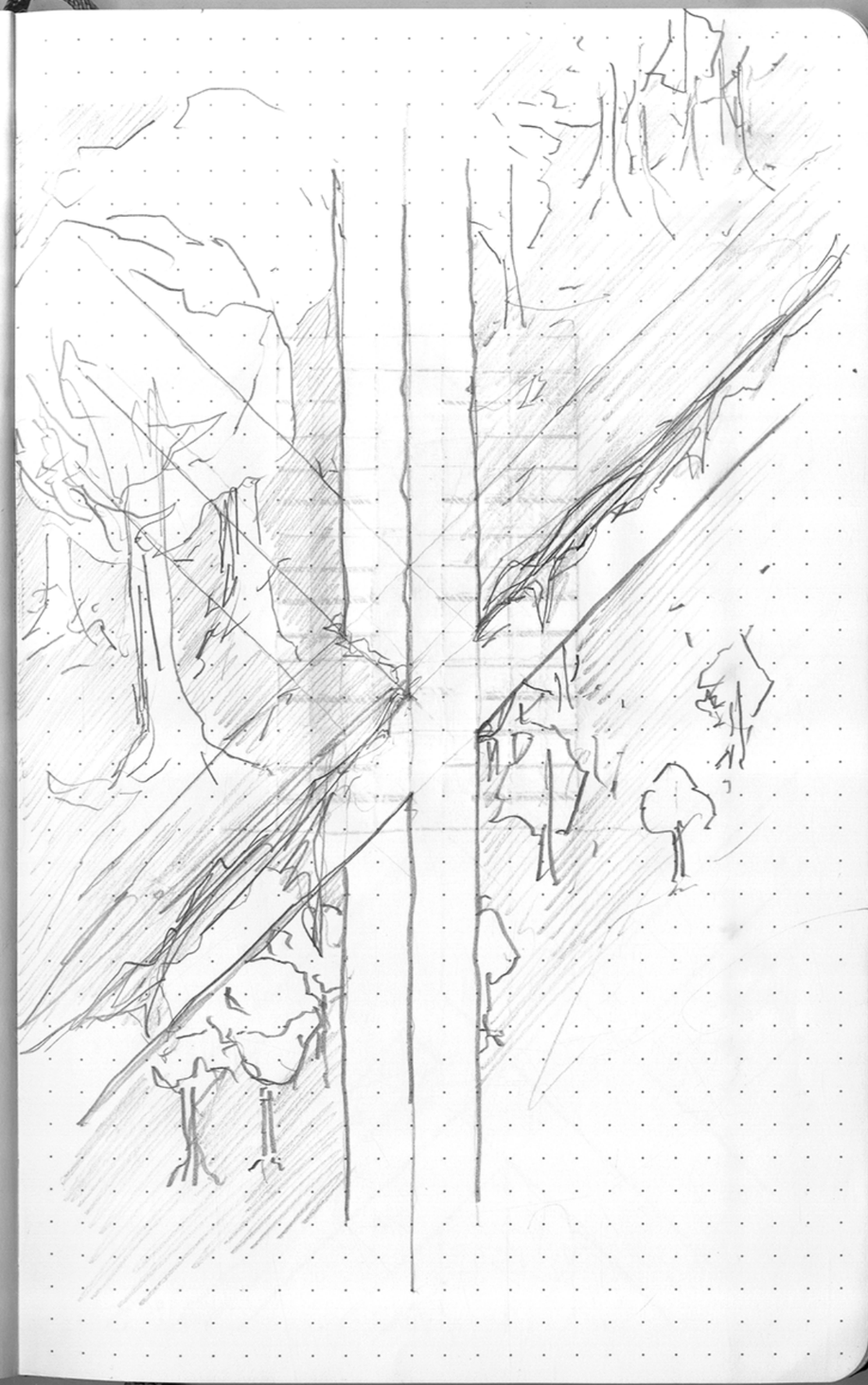


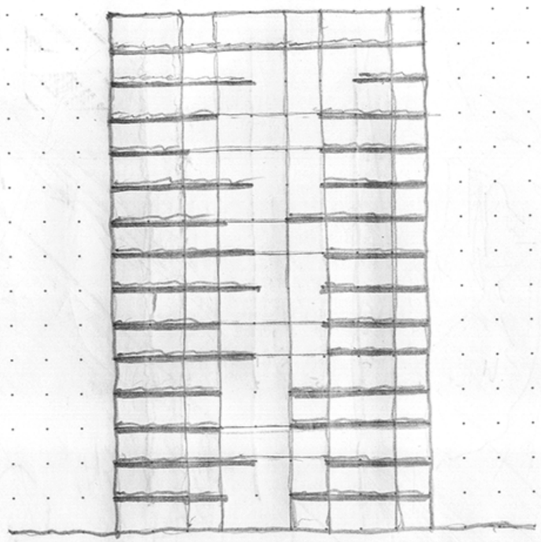


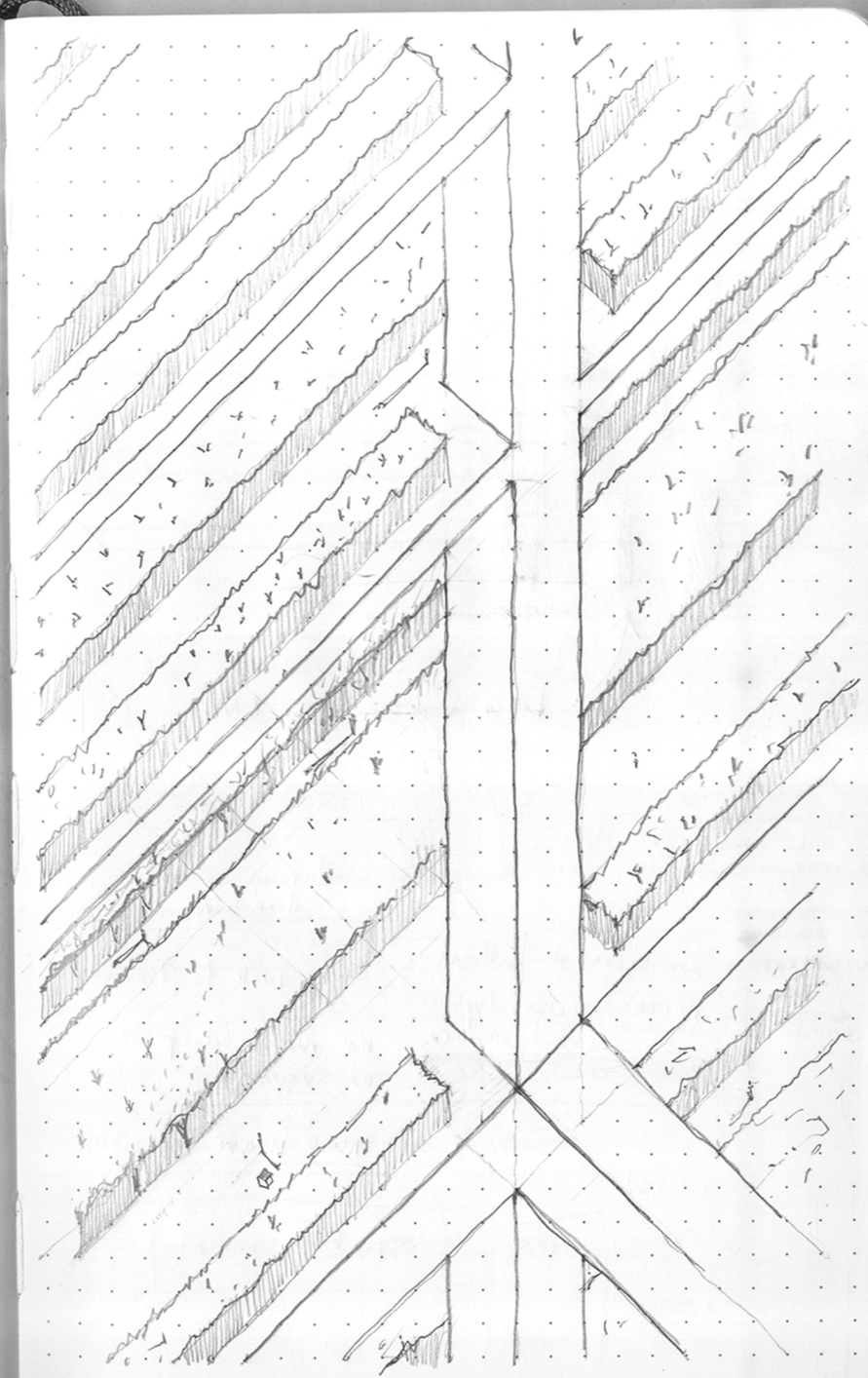


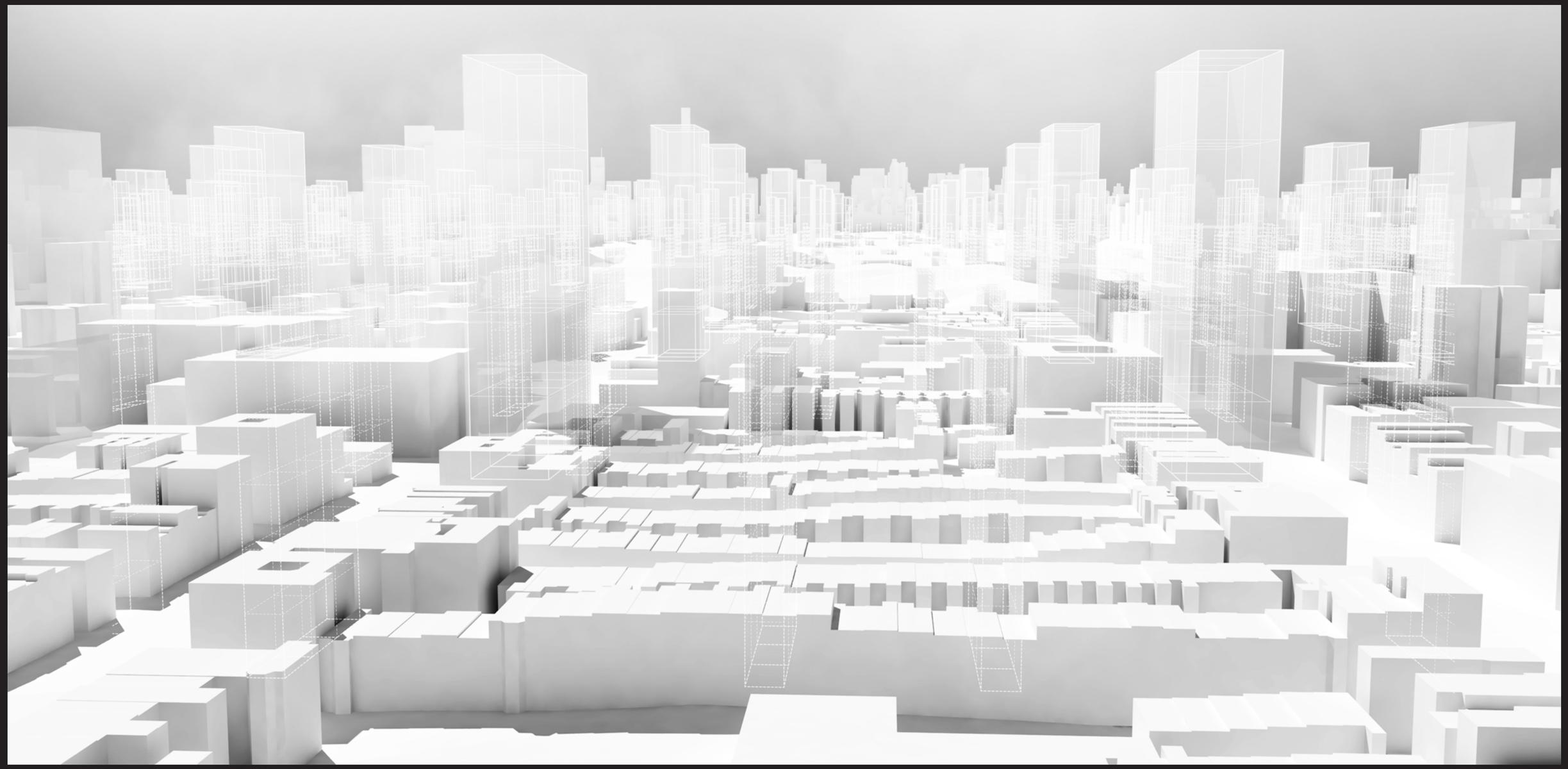




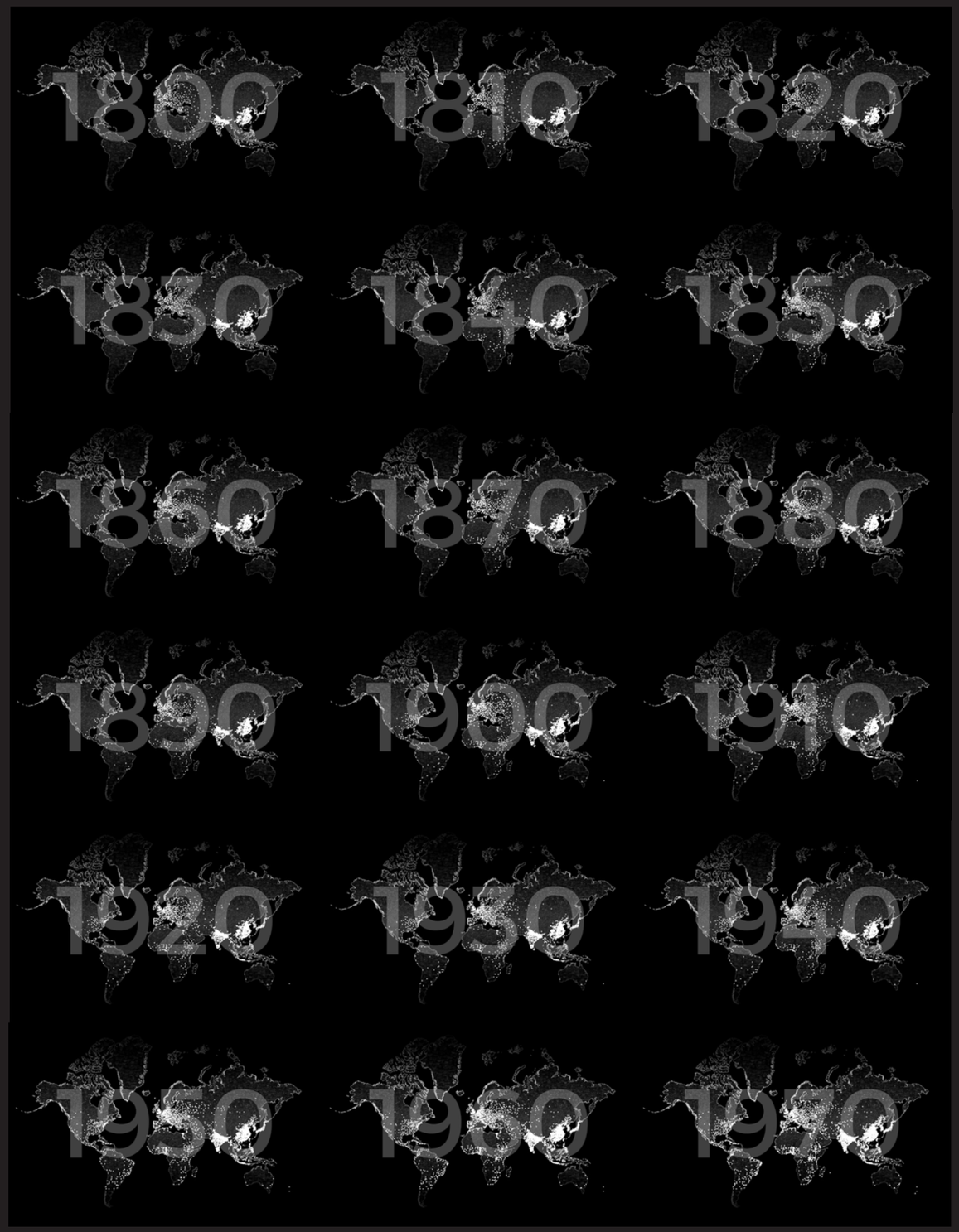








FINAL WORK


1800
1810
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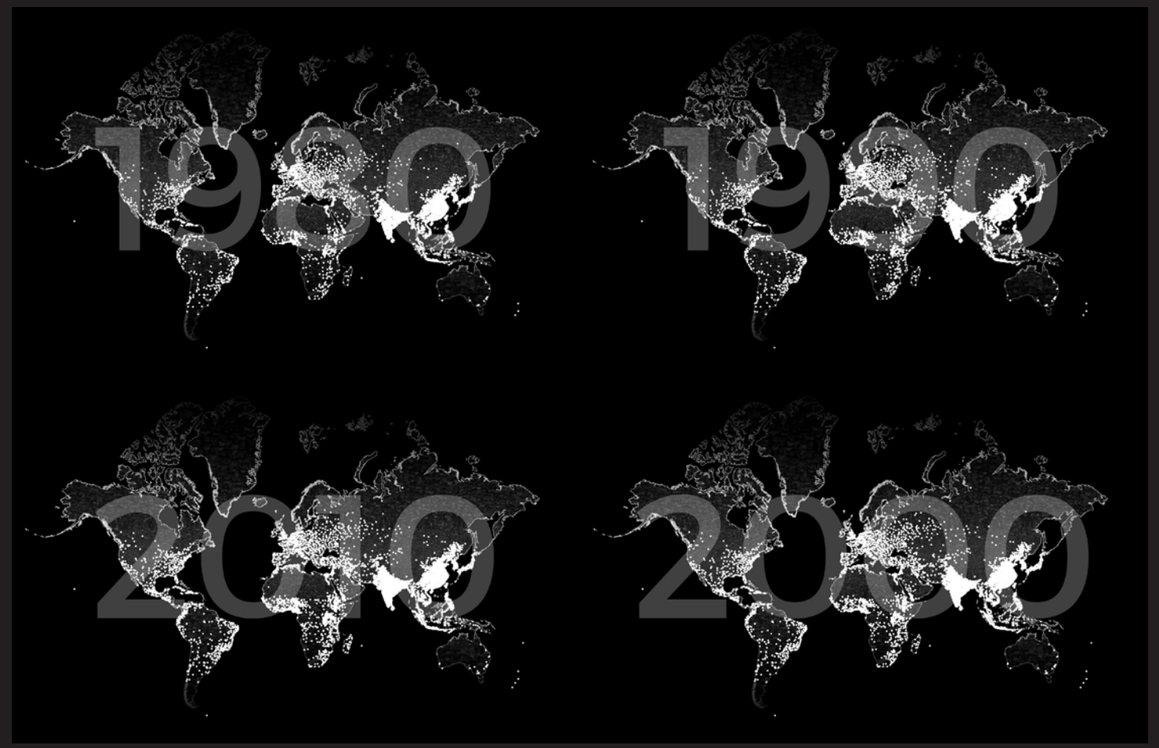
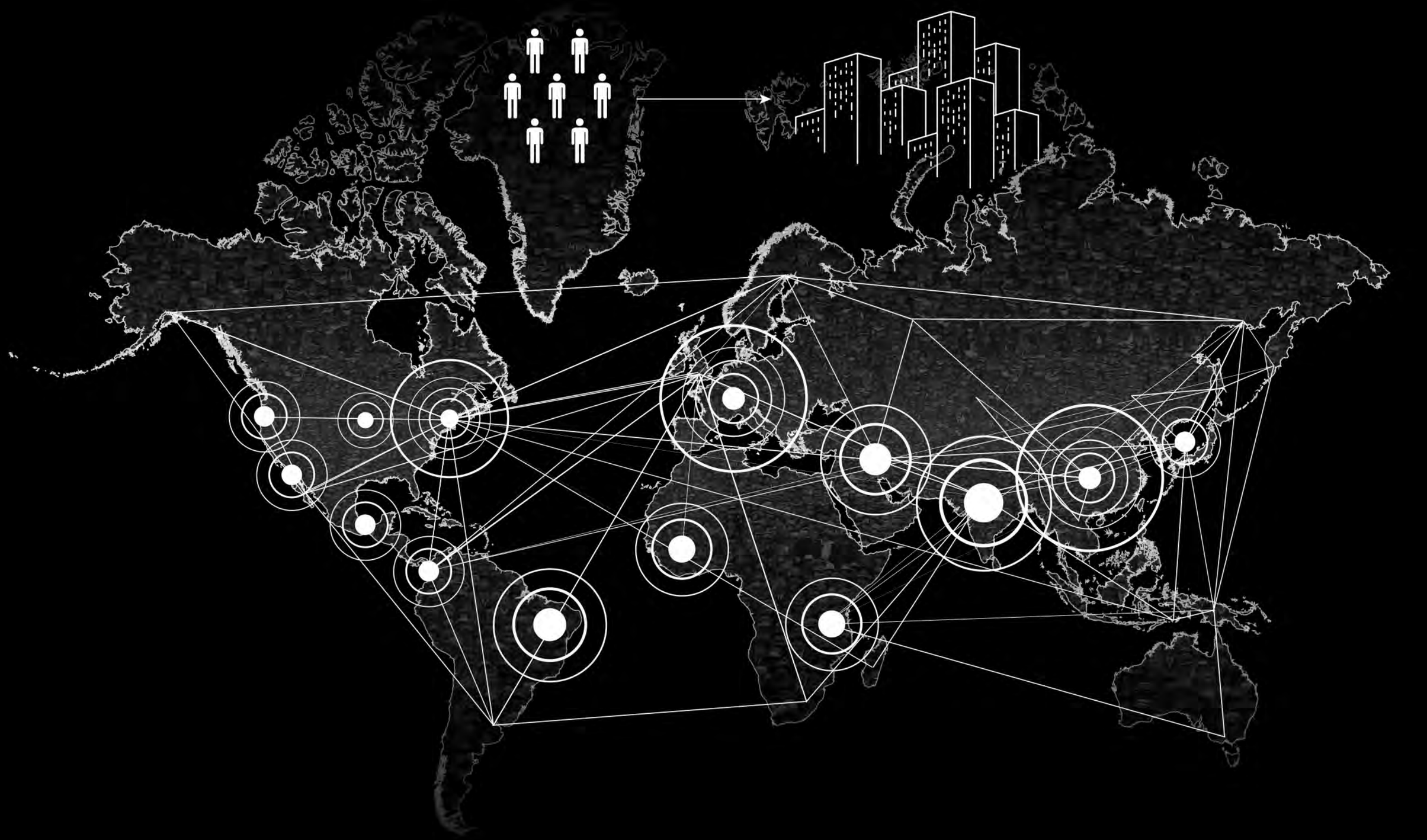
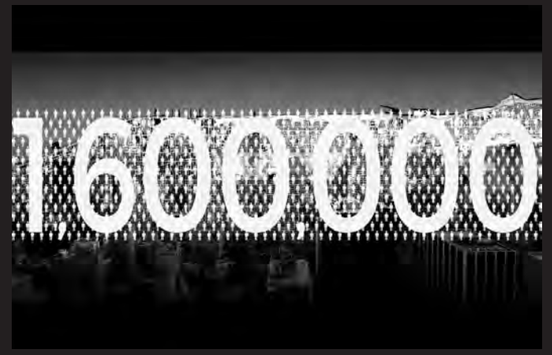

1980
1990
2000
2010

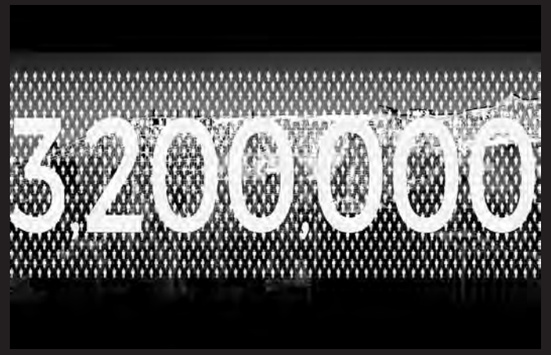

2016

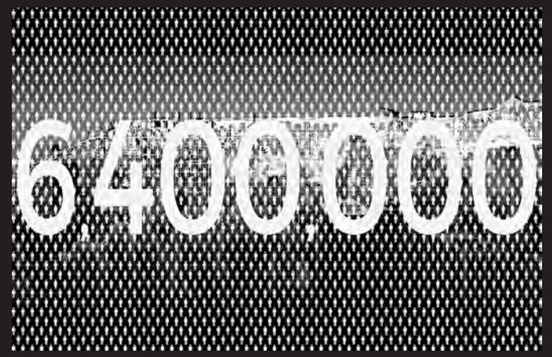
Our global population is overwhelming expanding, and as a direct result, our essential resources are being increasing strained; potentially reaching their max allowable output. Calculations into Earth's carrying capacity are based on the correlation of population size, to their availability to fresh water and food. These calculations suggest the Earth can support, a max, 10 billion people.

Currently, Earths population is around 7.4 million people. The UN speculates that by the year 2050, our global population will exceed 9 billion, and then 10 billion by the year 2100. Alongside this mass population growth, we are also experiencing and increasing migration of people back into urban centers. If these population predictions are correct, and these migration patterns perpetuate, what would it be like to exist in an environment of complete saturation? How would places such as Manhattan adapt to these impending conditions?





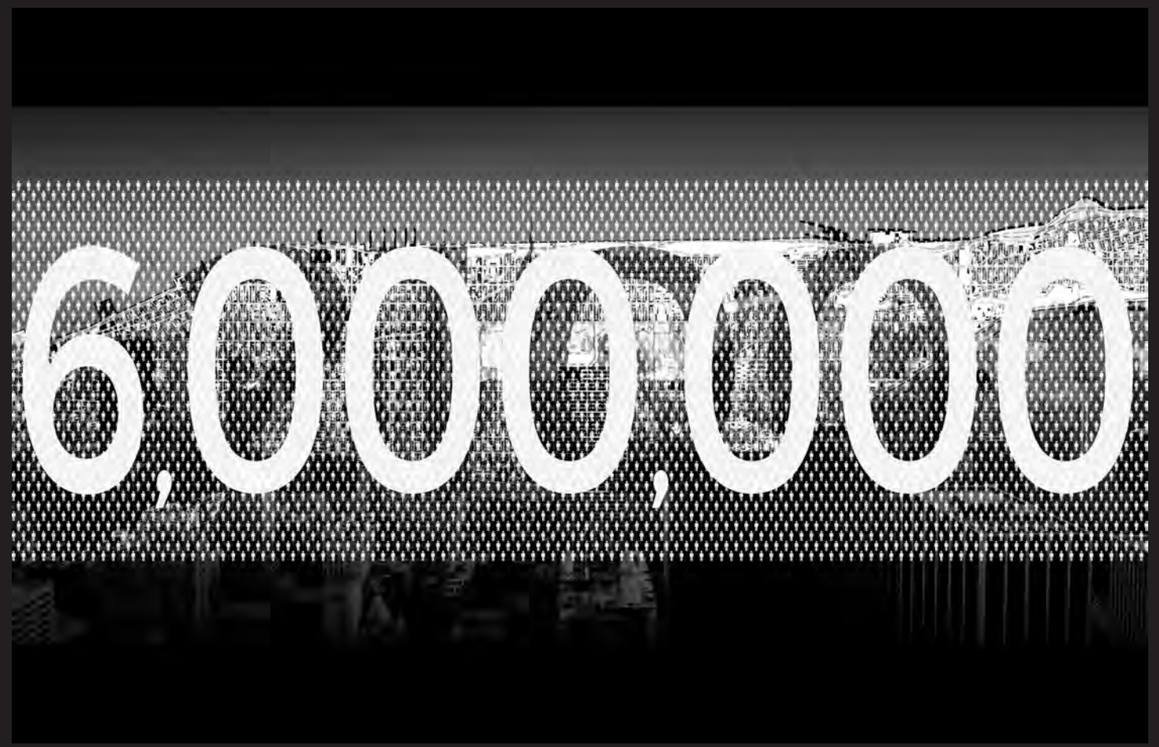




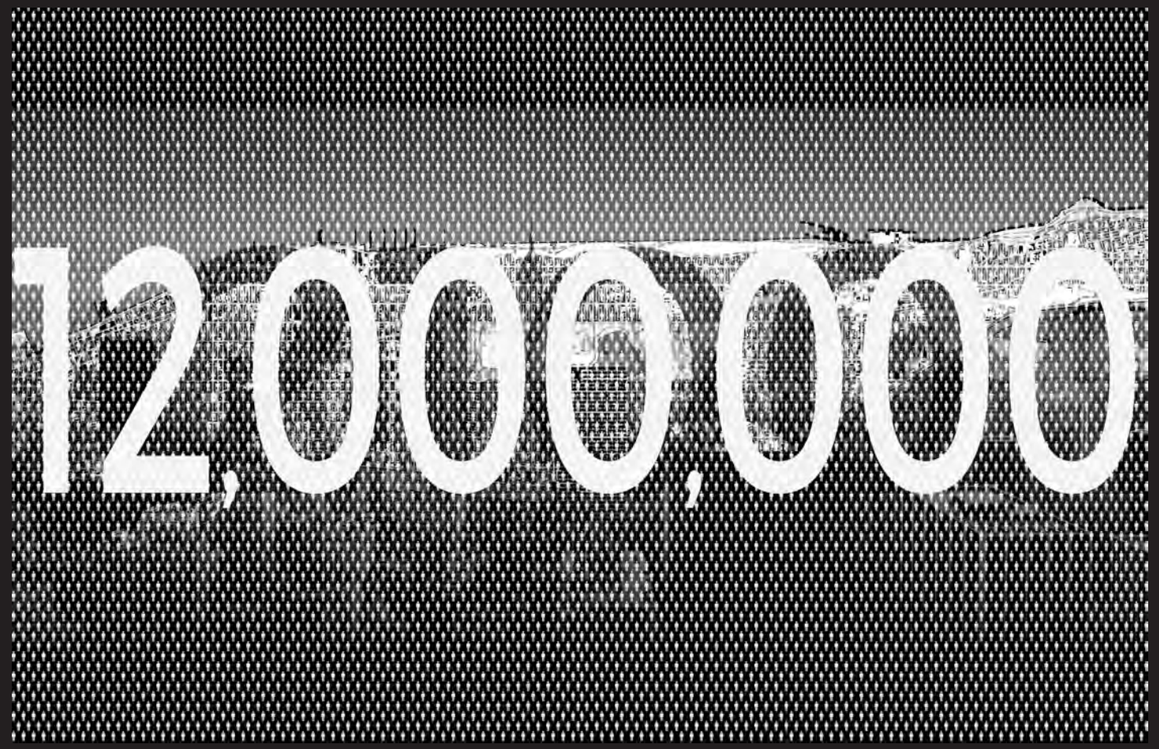
New York City’s current population is currently around 8.5 million people, with about 1.6 million living on the island of Manhattan. However, this number represents only residents, not the daily commuters and visitors. On a normal day, Manhattan’s population doubles due to commuters and can nearly triple during large public events.

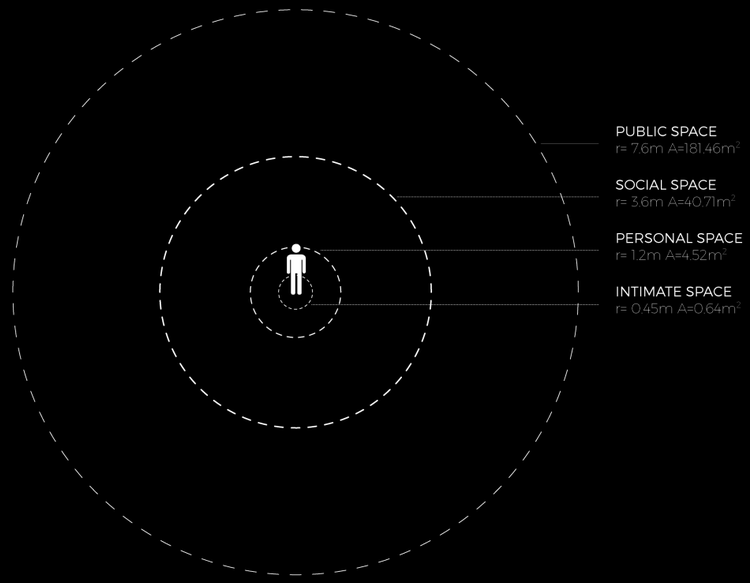
If New York City’s growth rate continues, it is predicted that by the year 2100 the population will rise to around 27.5 million people, with about 6 million people living within Manhattan and an additional 6 million commuting onto the island daily. The density of Manhattan would be immense.


27,500,000

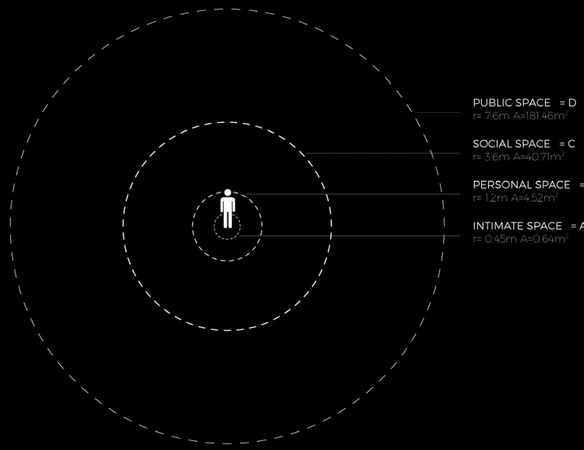

6,000,000


6,000,000


12,000,000



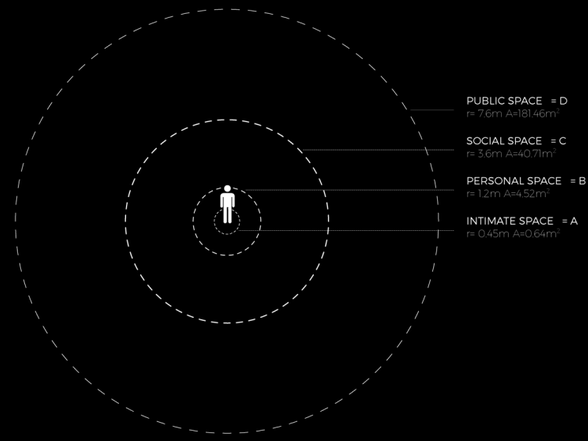
The amount of space that people feel it necessary to set between them and others



$$\left[A = \prod r^2, \text{ where } r = \text{radius of A, B, C, and D} \right] \times \left[\text{Predicted population of Manhattan in 2100} \right]$$

= How much space between one individual and another

Surface Area of Manhattan, = 22.7 miles²



$$\left[A = \prod r^2, \text{ where } r = 0.45\text{m} = \prod (0.45\text{m})^2 = 0.64\text{m}^2 \right] \times \left[12{,}000{,}000 \text{ people} \right] = 17{,}600{,}000 \text{ m}^2$$

$$= 6.8 \text{ miles}^2$$

$$\left[B = \prod r^2, \text{ where } r = 1.2\text{m} = \prod (1.2\text{m})^2 = 4.52\text{m}^2 \right] \times \left[12{,}000{,}000 \text{ people} \right] = 124{,}300{,}000 \text{ m}^2$$

$$= 48.0 \text{ miles}^2$$

$$\left[C = \prod r^2, \text{ where } r = 3.6\text{m} = \prod (3.6\text{m})^2 = 40.71\text{m}^2 \right] \times \left[12{,}000{,}000 \text{ people} \right] = 1{,}119{,}525{,}000 \text{ m}^2$$

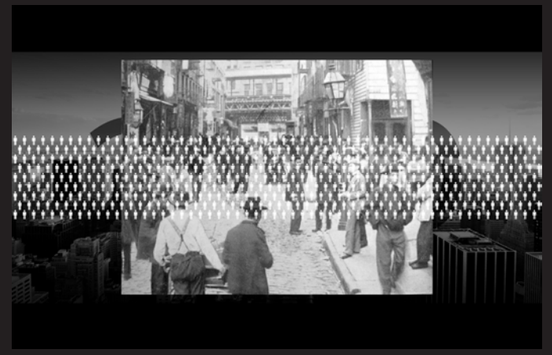
$$= 432.25 \text{ miles}^2$$

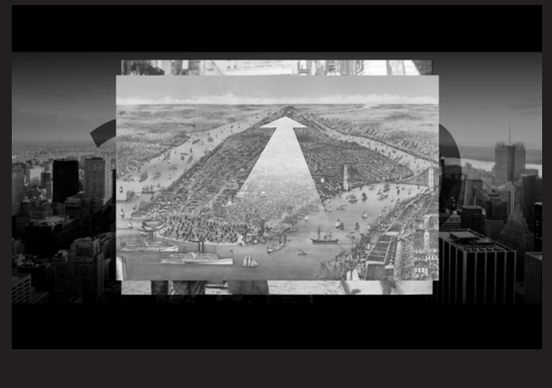
$$\left[D = \prod r^2, \text{ where } r = 7.6\text{m} = \prod (7.6\text{m})^2 = 181.46\text{m}^2 \right] \times \left[12{,}000{,}000 \text{ people} \right] = 4{,}990{,}150{,}000 \text{ m}^2$$

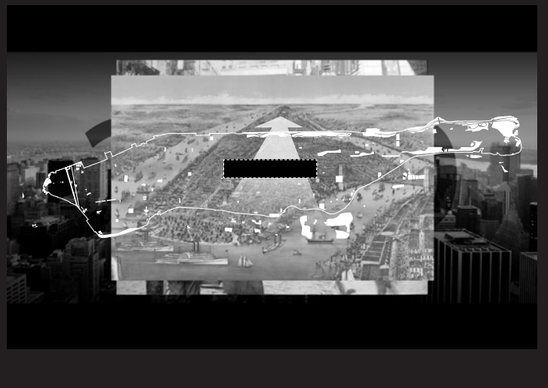
$$= 1{,}926.7 \text{ miles}^2$$

Surface Area of Manhattan $= 22.7 \text{ miles}^2$

Based on the theory of proxemics, which theorizes the amount of space that people feel it necessary to set between them and others, and Manhattan's predicted population of 2100, it can be calculated how much space the population would have in relation to one another. If Manhattan were free of all buildings, and 12 million people were evenly distributed on the island, each person would have, at most, a sense of personal space.

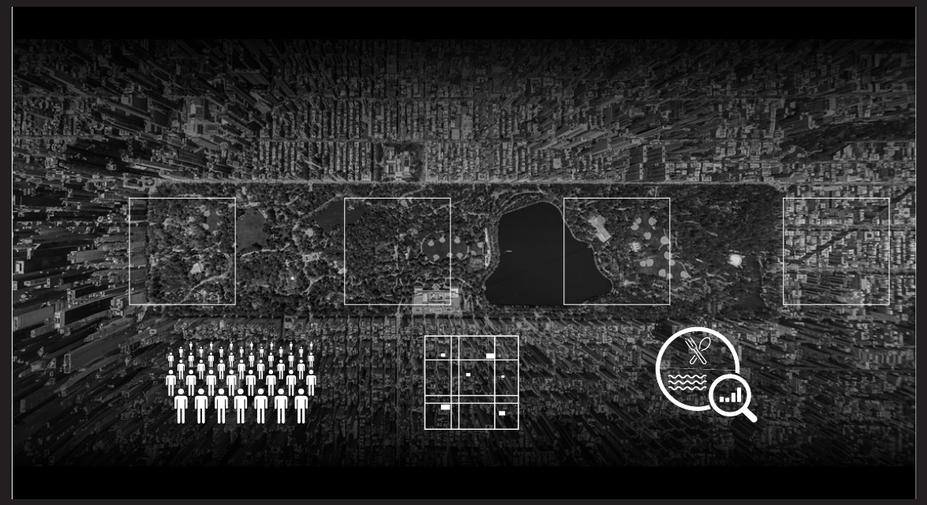


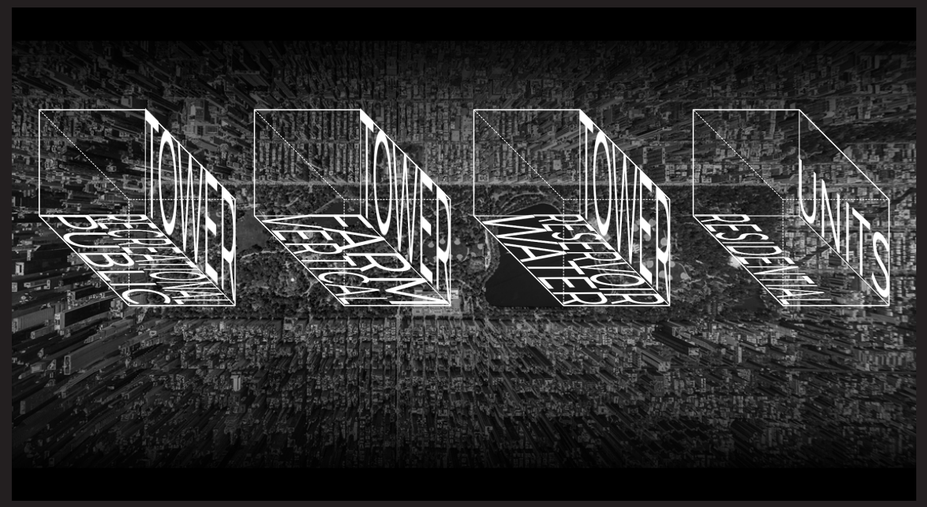




The Manhattan of 2100, although speculation, suggests a series of impending crisis' that would have great effects on a city. Historically, this is not the first time Manhattan has experience mass density issues. Since its early development, the city has experienced increasing, and steady growth. Between 1821 and 1855, New York City nearly quadrupled in population.

As the city expanded northward up Manhattan, people were drawn to the few existing open spaces, mainly cemeteries, to get away from the noise and chaotic life in the city. The creation of Central Park, strived to establish a place untouched by the city a space where the city could not exist. A place for meant for escape.

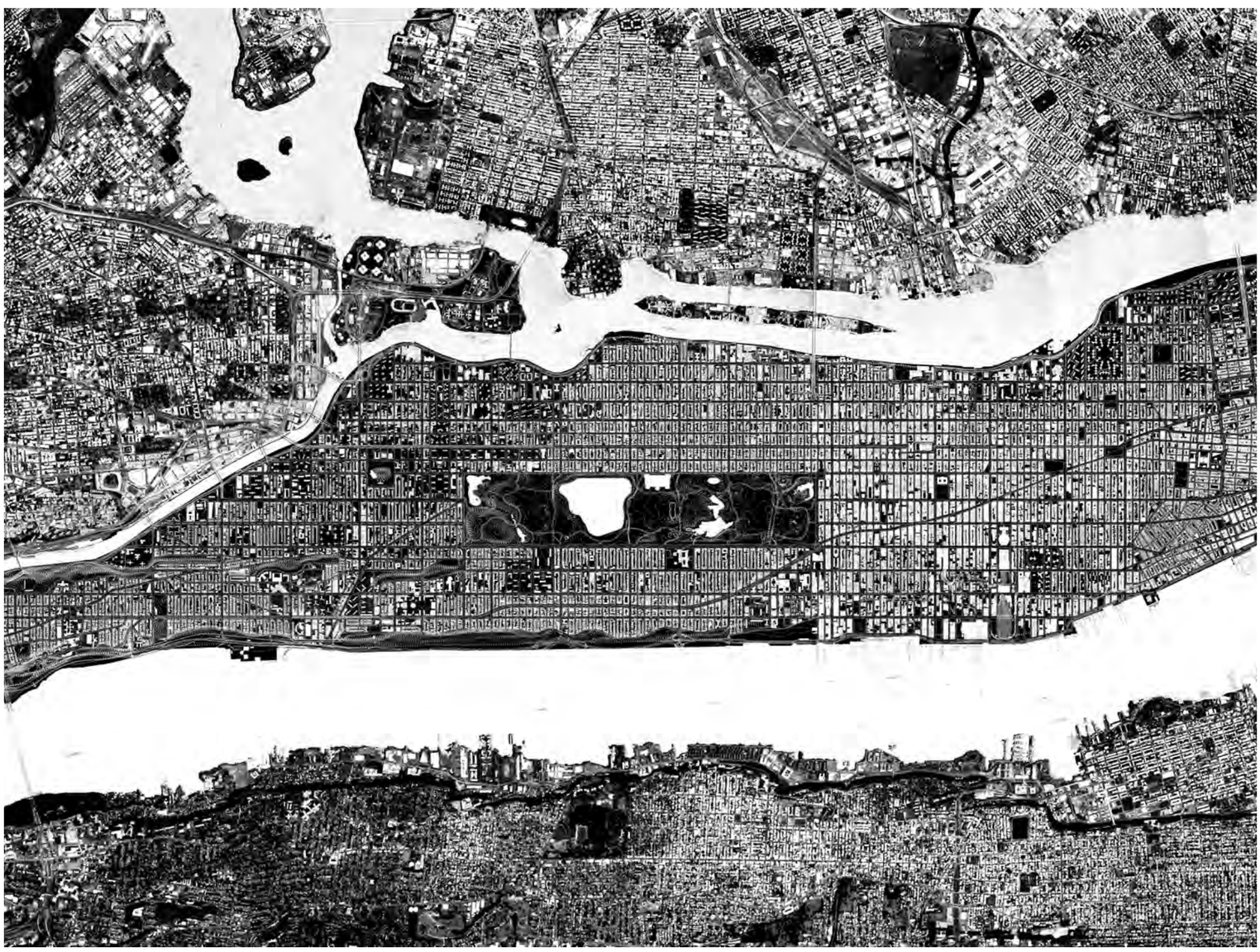


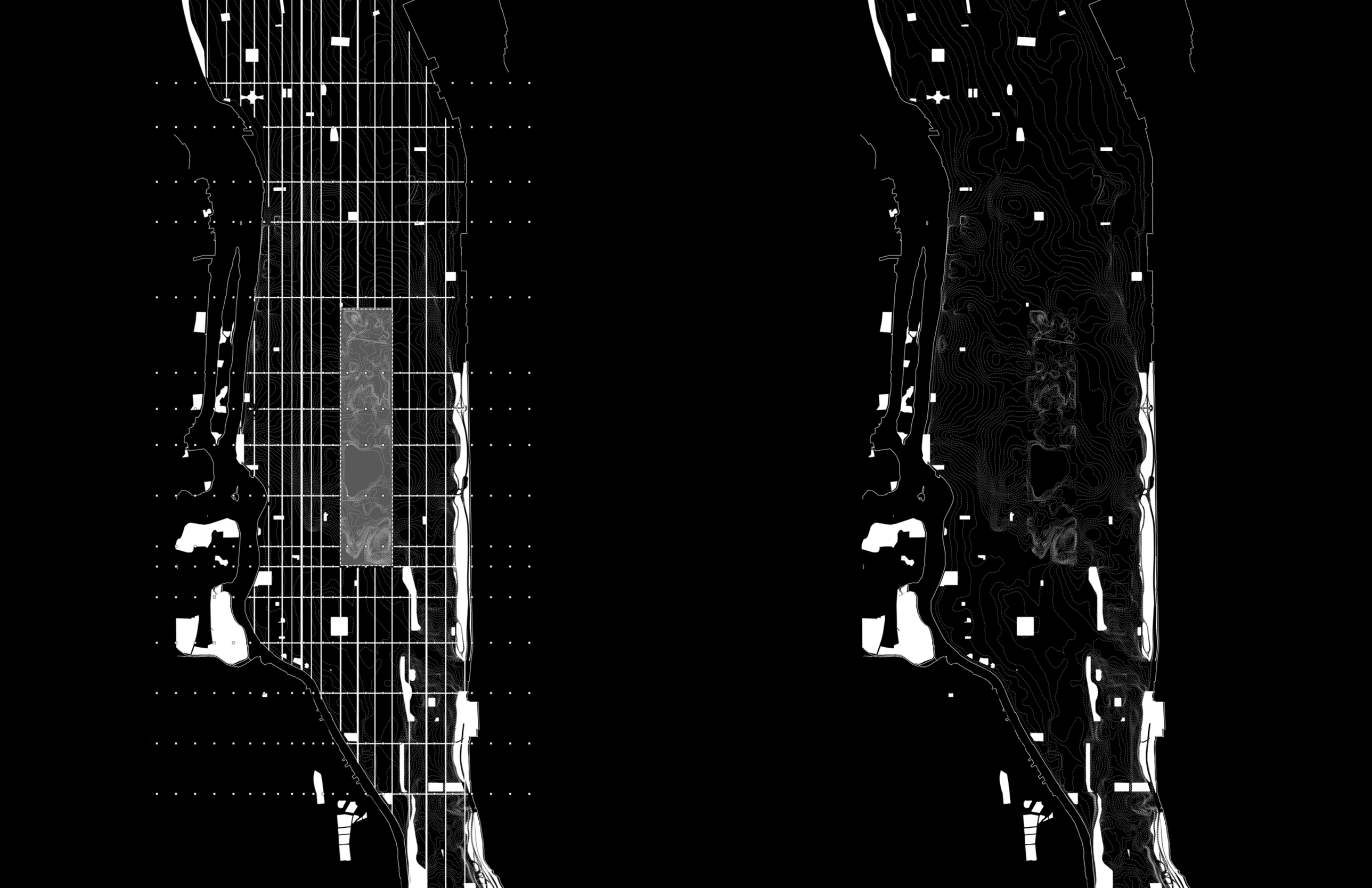


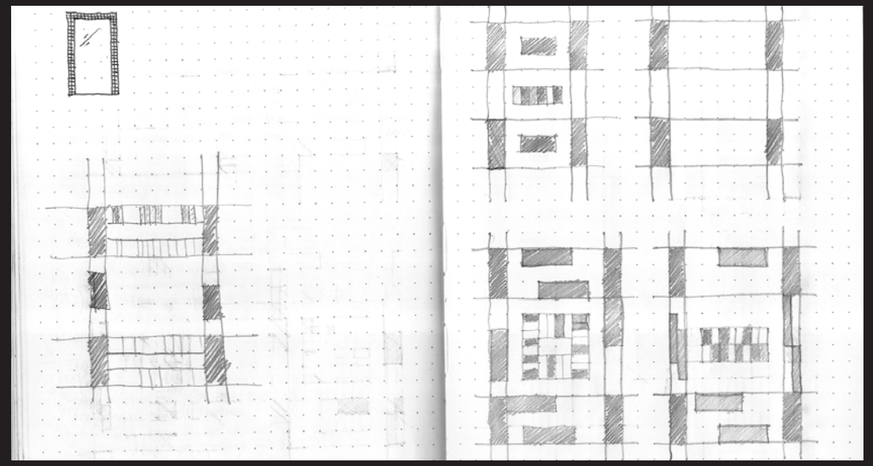
Today, Central Park lays as one of the largest space and one of the most visited areas of Manhattan. And the space people once used to escape the chaos of the city, is now becoming just as chaotic and overshadowed by taller architecture. With the increase of population, people are looking for new places to escape to. So by reconceptualizing these impending crisis of our near future, as new opportunities for architectural intervention, a program can be established to expand Manhattan.

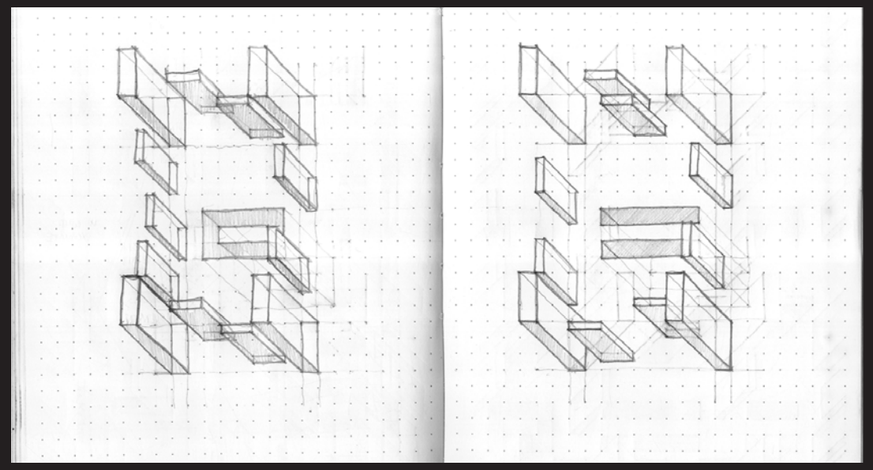
Public recreational towers, adding more open / public space, vertical farms and water reservoir towers contribute to a greater abundance of essential resources, and new residences to house the growing population.

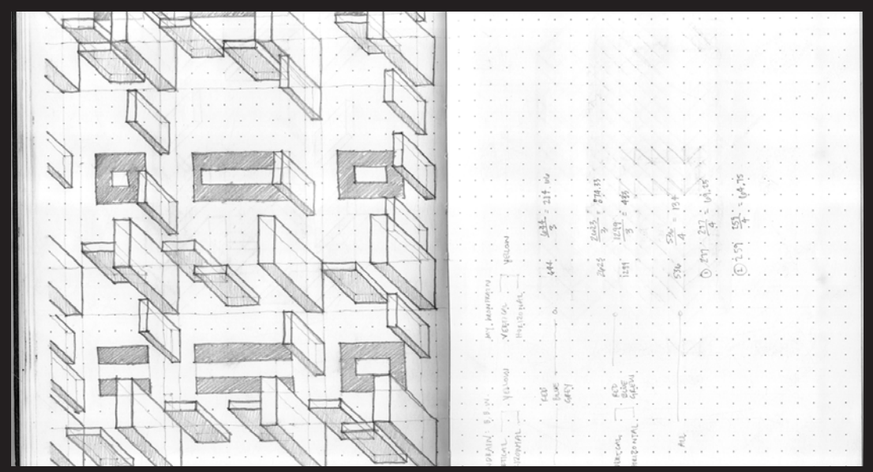
And with the islands current limitation of available space, Central presents itself with great opportunity. Its centralized location, can act as the nucleus for a greater system of new decentralized activity that disperses throughout Manhattan. Creating new urban fabric for city live to exist.

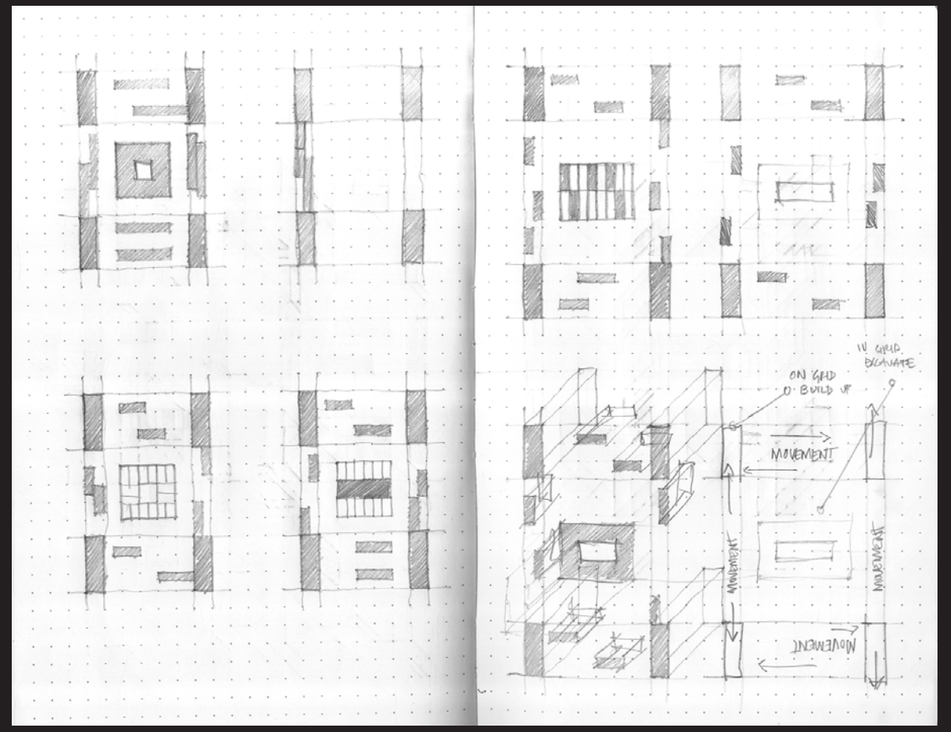








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